



ONLINE CERTIFICATE PROGRAM

# BUSINESS ANALYTICS: FROM DATA TO INSIGHTS

DURATION: 3 MONTHS | PROGRAM FEES: \$2,600



**Wharton**  
UNIVERSITY of PENNSYLVANIA  
Aresty Institute of Executive Education

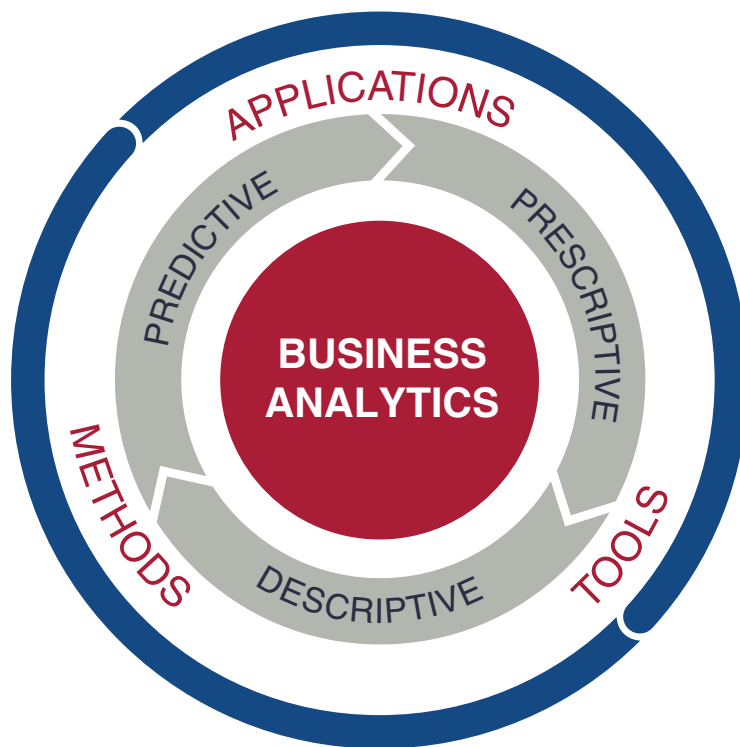
EXECUTIVE  
EDUCATION

# Overview

Chances are you're swimming in data. It's become ubiquitous. But so has the potential for turning it into revenue-producing action. How do you make that happen? Wharton's three-month online program—***Business Analytics: From Data to Insights***—provides managers and leaders an understanding of how analytics can help improve their decision-making process. This program will help you look at data and identify insights, improve your ability to make predictions for the long term, and prescribe future actions that help make better business decisions.

The program is organized across three core pillars of analytics: Descriptive Analytics, Predictive Analytics, and Prescriptive Analytics.

A diverse and talented team of top faculty bridge analytics theory with practice across multiple industries. The online program combines lectures by leading faculty from Wharton with case studies and examples, creating rich content to apply and practice key analytics principles.



# High Impact, Online Learning Experience

Wharton's *Business Analytics* program combines practice theory with application and flexibility with rigor to give you a holistic professional education experience. At the end of this online program you will be able to:

- Understand new and best-practice methods used to collect data
- Gain new insight on user behavior
- Learn the appropriate tools for predicting future outcomes
- Employ real-world business analytics utilized at top firms
- Formulate data-driven recommendations to inform the strategic business decisions that lead your company toward success

## Program Highlights



160

Video Lectures



8

Assignments



6

Industry Examples



1

Data Simulation



### FRAMEWORKS

Delivered via  
video lectures



### REAL-WORLD EXAMPLES

Delivered through a  
combination of video  
and live online  
lectures



### APPLICATIONS TO DATA SETS

Learn through  
individual assignments  
and feedback



### DEBRIEF OF LEARNINGS

Delivered through a  
combination of  
recorded and live  
video lectures

# Program Topics

Learn business analytics using its three foundational pillars:

**1. Descriptive Analytics** takes you through the different types of data and how it can be visualized, ultimately helping you leverage your findings and strengthen your decision making.

**2. Predictive Analytics** explores the potential uses of the data, once it is collected and interpreted. You'll learn to utilize different modeling tools, such as regression analysis, and estimate relationships among variables to predict future end-user behavior.

**3. Prescriptive Analytics** takes you through the final step—formulizing concrete recommendations based on your data. These recommendations can be directed toward a variety of efforts, including pricing, as well as social-platform outreach.

## Program Topics Include:

- Descriptive Analytics: Gathering Insights
- Descriptive Analytics: Describing and Forecasting Future Events
- Predictive Analytics: Making Predictions Using Data
- Predictive and Prescriptive Analytics: Application and Toolkit
- Predictive Analytics: Tools for Decision Making
- Predictive Analytics: Using Data to Predict Employee Performance
- Prescriptive Analytics: Providing Recommendations to Change Behavior
- Prescriptive Analytics: Determining the Most Favorable Outcomes
- Application of Analytics for Business

## Apply to Data Sets

*Business Analytics* gives you an opportunity to work on real-world data sets. This hands-on experience provides a holistic learning journey and will prepare you to implement business analytics in your workplace.

# Modules and Learning Outcomes

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## Week 1 - Descriptive Analytics: Gathering Insights

- Identify and interpret effective methods for collecting data on customer behavior
- Use customer data to make better business decisions

## Week 2 - Descriptive Analytics: Describing and Forecasting Future Events

- Use historical data to estimate forecasts for future events using trends and seasonality

## Week 3 - Predictive Analytics: Making Predictions Using Data

- Choose the right tool for a decision and determine the kinds of predictions you can make to create future strategies

## Week 4 - Predictive and Prescriptive Analytics: Application and Toolkit

- Apply optimization models to specific business challenges with low uncertainty and determine the most favorable outcome

## Week 5 - Predictive Analytics: Tools for Decision Making

- Interpret and visualize the results of simulation models to help you evaluate complex business decisions in uncertain settings

## Week 6 - Predictive Analytics: Using Data to Predict Employee Performance

- Use data analytics to better understand the key components of the staffing cycle—hiring, internal mobility, and attrition

## Week 7 - Prescriptive Analytics: Providing Recommendations to Change Behavior

- Explore optimization models that will enable you to write prescriptions for data-driven decision making for your company or business

## Week 8 - Prescriptive Analytics: Determining the Most Favorable Outcomes

- Use decision trees in conjunction with optimization and simulation to help you determine the most favorable outcomes for a business decision

## Week 9 - Application of Analytics for Business

- Use your learning from the most innovative and effective data-driven practices of top firms to determine the best way to put data to work in your own company or business

# Methods and Tools



Methods and tools discussed in this program include:

## Data Collection Methods

- Descriptive Data Collection: Surveys, Net Promoter Score (NPS), and Self-Reports
- Passive Data Collection
- Media Data Collection - Radio, Television, Mobile, etc.

## A/B Testing

## Correlation and Causation

## Forecasting

- Objective and Subjective
- Strand or Seasonal Variation
- Exponential Smoothing
- Descriptive Statistics
- Trends and Seasonality
- New Product

## Regression Analysis

## Simulation Toolkit

- Analysis ToolPak
- Solver Optimization Tool

## Data Visualization and Interpretation

## Optimization Models

## Decision Trees

# Application of Analytics

This online program provides a hands-on experience on using analytics tools and methods to make important business decisions across an organization. Each framework will be illustrated with examples and participants will engage in problem-solving applications using data sets. Discussions will cover multiple industries, including: apparel, consumer packaged goods, ecommerce, financial services, health care, media and entertainment, technology, and retail.

**Industry examples discussed across this program include:**



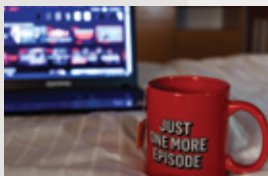
## Consumer Packaged Goods

How is Starbucks identifying which customers to give deals to in order to maximize return on investment (RoI)?



## Financial Services

How does American Express use social media data to predict whether you are going to give up your American Express card?



## Media and Entertainment

How is Netflix using metadata tagging to know what you watch and to create relevant content?



## Retail

Why were stores either selling out of *Time* magazine or only selling a small fraction of their inventory?



## Technology

How could Amazon potentially ship *before* you buy?

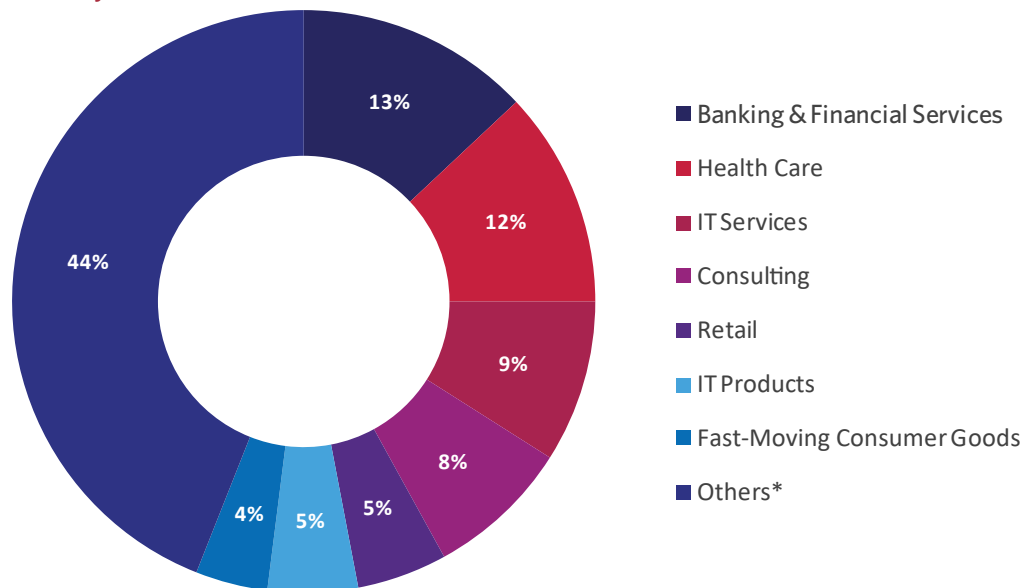


# Past Participants

## PARTICIPANT PROFILE

On your journey to learning business analytics techniques with Wharton, you'll be in good company. Past participants come from a wide range of industries, job functions, and management levels. This online program arms managers and leaders with the tools needed to break away from the pack. Take the opportunity to turn data into a competitive advantage.

### Participants by Industry



*Others\* includes advertising, agriculture, civil construction, ecommerce, electronics and hardware, energy, human resources, industrial goods, media, real estate, telecommunications, and tourism.*

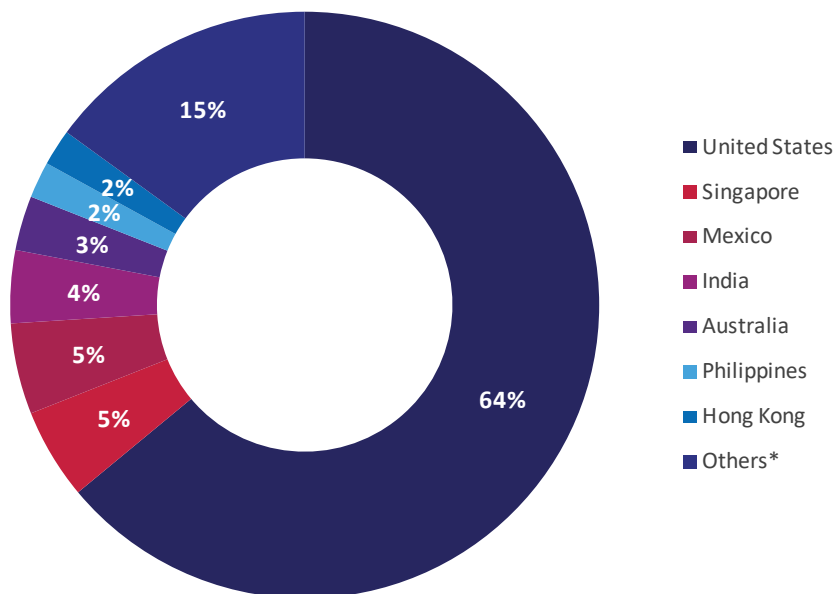
### Participants by Job Function

- Account Managers
- Assistant Directors
- Business Analysts
- CEOs
- Chief Marketing Officers
- CIOs
- Executive Directors
- Financial Analysts
- Investment Directors
- Product Managers
- Portfolio Managers
- Vice Presidents



## Participants by Region

Participants from over 45 countries have joined the program, leveraging our advanced online learning platform.



*Others\* includes Australia, Austria, Belgium, Brazil, Canada, China, Germany, Ireland, Japan, Malaysia, Nigeria, Qatar, Switzerland, UAE, United Kingdom, and Vietnam.*

## Representative Companies

Participants in the *Business Analytics* online program have been employees of companies including:

- Accenture
- Adobe
- American Express
- AT&T
- Bristol-Myers Squibb
- Capgemini
- HSBC Private Banking
- eBay
- Ernst & Young
- FedEx Express
- General Motors
- Google
- Johnson & Johnson
- McKinsey & Company
- Microsoft
- Morgan Stanley
- Oracle
- PayPal
- Pfizer
- Siemens
- Southwest Airlines

# Faculty



**Christopher D. Ittner**

**Faculty Director**

EY Professor of Accounting; Chairperson,  
Accounting Department



**Peter Fader**

Frances and Pei-Yuan Chia  
Professor; Professor of  
Marketing



**Raghuram Iyengar**

Miers-Busch, W'1885 Professor;  
Professor of Marketing; Faculty  
Director, Wharton Customer  
Analytics (WCA)



**Senthil Veeraraghavan**

Professor of Operations,  
Information and Decisions



**Sergei Savin**

Associate Professor of Operations,  
Information and Decisions



**Ron Berman**

Assistant Professor of  
Marketing



**Noah Gans**

Anheuser-Busch Professor of  
Management Science; Professor of  
Operations, Information and Decisions;  
and Chairperson, Operations,  
Information and Decisions



**Eric Bradlow**

The K.P. Chao Professor;  
Professor of Marketing,  
Economics, Education, and  
Statistics; Vice Dean of Analytics;  
and Chairperson, Wharton  
Marketing Department



**Matthew Bidwell**

Associate Professor of  
Management

# Certificate

Earn a digital Wharton certificate upon successful completion of the online program.

*Note: After successful completion of the online program, your verified digital certificate will be emailed to you in the name you used when registering for the program. All certificate images are for illustrative purposes only and may be subject to change at the discretion of the Wharton School.*



*Note: This online certificate program does not grant academic credit or a degree from the Wharton School of the University of Pennsylvania.*

# Testimonials

"The course provided a good overview of how analytics can be applied across various entities within an organisation such as supply chain, HR, manufacturing, etc."

— **Johnny Queck, Regional Director – ASEAN, BioMerieux**  
**SINGAPORE**



"Learning the many analytical models will help me in my day-to-day work. This is a skill that I have been missing for years. I feel confident I can work smarter going forward."

—**Damien Smith, Airport Retail Manager, Aer Rianta International**  
**IRELAND**

"The teaching faculty was excellent and the pace of how they presented the material in each module was perfect. The combination of Wharton-quality instruction and Emeritus delivery was seamless."

—**Pauline Francis, Partner, B2B CFO**  
**USA**



"The videos and practical examples were the best part. The faculty were also world-class and explained concepts really well."

—**Neil Gomes, Chief Digital Officer and Senior VP, Thomas Jefferson University**  
**USA**



## THE WHARTON SCHOOL

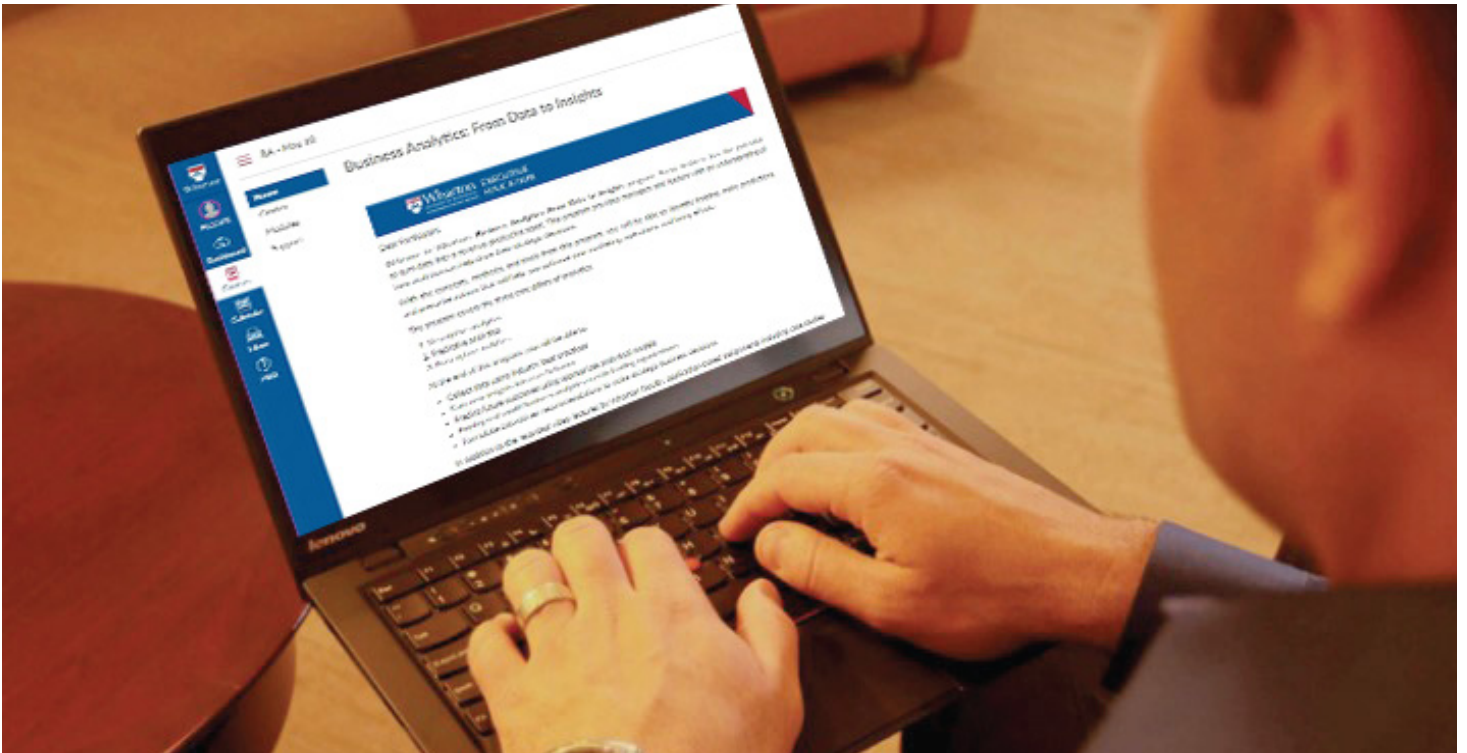
Founded in 1881 as the first collegiate business school, the Wharton School of the University of Pennsylvania is recognized globally for intellectual leadership and ongoing innovation across every major discipline of business education. With a broad global community and one of the most published business school faculties, Wharton creates economic and social value around the world. The School has 5,000 undergraduate, MBA, executive MBA, and doctoral students; more than 13,000 participants in executive education programs annually; and a powerful alumni network of 98,000 graduates. With more than 50 online courses from which to choose, more than 3 million learners worldwide have accessed Wharton Online programming taught by Wharton's world-class faculty.

## EMERITUS

Wharton Executive Education is collaborating with online education provider Emeritus to offer a portfolio of high-impact programs for working professionals. Through this collaboration, we are able to offer broad access to the world-class knowledge for which the Wharton School is known in an engaging and interactive digital environment.



# The Learning Experience

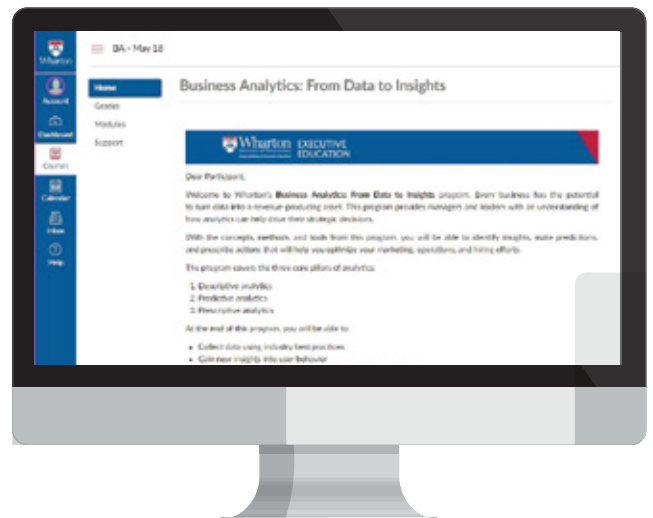


Our programs are designed to meet the needs of individual learning styles, while also leveraging the power of peer learning. This is achieved through a user-friendly learning platform that enables participants to easily navigate the program content to achieve learning objectives.

## KEEPING IT REAL

**Our pedagogical approach is designed to bring concepts to life, including:**

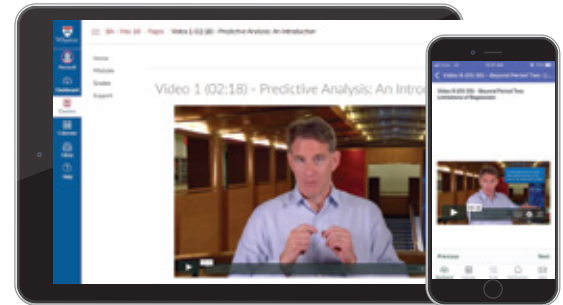
- Byte-sized learning techniques
- Real-world application
- Peer learning discussions
- Live, interactive teaching



## KEEPING IT CONVENIENT

Access to program content is flexible and available through multiple devices, allowing working professionals to easily manage schedules and learn remotely—anytime, anywhere. Participants enrolled in the program obtain access to learning materials in a modular approach, with new content released weekly. Program modules include a variety of teaching instruments, such as:

- Video lectures
- Discussions
- Class materials: articles, cases
- Quizzes
- Surveys
- Assignments



To further personalize the program modules, live teaching sessions are scheduled during the program, often with Q&A. For participants who are unable to attend these sessions live, a recording is made available so nothing is missed. Our industry-leading learning platform allows participants to create a profile; connect and collaborate with peers; and interact with academic/industry experts such as program leaders, coaches, and teaching assistants. Assignments are often linked to participants' real-world situations, making concepts inherently practical.

## KEEPING IT INTERESTING

Our globally connected classrooms enable participants to seamlessly interact with their peers to complete group assignments and stay on track toward program completion—having culturally enriching encounters along the way.

### Program Requirements

To access our programs, participants will need the following:

- Valid email address
- Computing device connected to the internet:  
PC/laptop, tablet, or smartphone
- The latest version of their preferred browser to access our learning platform
- Microsoft Office and PDF viewer to access content such as documents, spreadsheets, presentations, PDF files, and transcripts

### Other Requirements

Programs may necessitate the usage of various software, tools, and applications. Participants will be informed about these additional requirements at the registration stage or when the program begins. Our program advisors are also available to respond to any queries about these requirements.



# Program Information



## DURATION

3 months, online  
6-8 hours per week

Easily schedule a call with a program  
advisor to learn more

[SCHEDULE CALL](#)

## PROGRAM FEES

\$2,600  
*Flexible payment options available for this program.*

You can apply for the  
program [here](#)

[APPLY](#)

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