Master in
Business Analytics & Big Data
You drive innovation
One program, two options

FULL-TIME
10 MONTHS
OCTOBER
MADRID

PART-TIME
17 MONTHS
JANUARY
MADRID AND DUBAI

THE NEW ENTERPRISE
COMPETING IN ANALYTICS

MARKETING
Maximize customer value and deliver superior customer experience using marketing analytics.

FINANCE & CONTROL
Optimize, measure, and forecast business performance with advanced analytical models.

OPERATIONS & MANUFACTURING
Align demand and operations to optimize performance and detect potential failures by tracking operational data in real time.

HUMAN RESOURCES & TALENT MANAGEMENT
Use talent analytics to predict employee performance, improve hiring, and better design roles and responsibilities.

THE MARKET

CUSTOMERS
Monitor and analyze sales and social media data to understand and predict consumer behavior.

SUPPLY & DISTRIBUTION
Ensure optimal levels of stock via demand forecasting, and optimize distribution channels to improve delivery performance.

COMPETITORS
React faster to competitive actions by gathering and analyzing diverse data from the market and public sources.

INDUSTRIES
Big Data will impact diverse industries

CONSUMER GOODS
BANKING
RETAIL
FINANCE
MANUFACTURING
TECHNOLOGY
AUTOMOTIVE
UTILITIES
ELECTRONICS
HEALTHCARE

A few of the many roles in big data:
- Data Scientist
- Marketing Analyst
- Business Consultant
- Business Intelligence Consultant
- Big Data Entrepreneur
- Business Analyst
- Researcher
- Analytics Consultant
- Data Solutions Architect
- Big Data Analytics Manager
- Chief Data Officer

JOBS
"Data Scientists hold the sexiest job of the 21st century", Harvard Business Review

"McKinsey predicts that companies will struggle to find Big Data talent due to a shortage in well-trained people"

"Data Scientist is going to be one of the 10 toughest job positions to fill in 2016", Forbes

Explore your Big Data career options:
email: bigdata.advisor@ie.edu
web: bigdata.ie.edu
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MASTER FOUR AREAS FOR SUCCESS

**Business Transformation**
- Introduction to Big Data and Analytics
- Transforming Financial Services Using Analytics
- Transforming Telco & Utilities Using Analytics
- Transforming Retail & Consumer Goods Using Analytics
- Big Data & Genomics: Transforming the Future of Medicine
- Smart Cities and Governments
- Financial Analytics
- Marketing Intelligence

**Big Data Technologies**
- Business Intelligence & Data Warehousing
- Database Modelling for Analytics
- Programming SQL for Analytics
- Mastering the Hadoop Ecosystem
- Applied Tools for Analyzing Big Data
- Innovative Technologies for Data Storage
- Stream Processing & Real-Time Analytics

**Data Science**
- The Knowledge Discovery Process
- Mathematics and Statistics for Data Analysis
- Basic Algorithms for Data Mining
- Statistical Models for Data Mining
- Building the Data Science Toolkit
- Forecasting Time Series
- Machine Learning Algorithms for Business
- Recommendation Engines
- Analyzing Social Networks
- Natural Language Processing & Text Mining
- Data Visualization
- Statistical Programming in R
- Statistical Programming in Python

**Professional Skills**
- Working Effectively in Teams
- Influence & Persuasion
- Giving Winning Presentations
- Running Innovation & Creation Processes

WHY IE

- Study at the No.1 School in Europe (Financial Times ranking, 2012 and 2013). Located in Madrid, a vibrant and global city.
- #1 Online MBA Programs (Financial Times 2015 ranking)
- 50,000 alumni hold positions of responsibility in over 100 countries.
- 27 international offices around the globe.
- Around 40% of students every year receive some type of Financial Aid.

HANDS-ON CHALLENGES

You will engage in three intensive team challenges that will give you practical, hands-on experience working directly with industry experts. In each challenge, your team will present its results to a panel of experts.

**CHALLENGE**  **THE MISSION**  
IBM Watson Challenge  Your team will be presented with a real world business situation by IBM. You will work fast to develop a data-driven tool or technology to improve their business performance.
Datathon  Four clients will provide your team with real data sets. You will apply your analytics and Big Data skills to uncover actionable insights and drive innovation.
Big Data Startup  You will develop and propose a Big Data application or idea and transform it into a plan for a start-up business or an innovation initiative.

3 STUDENT PROFILES

**BUSINESS**
You studied and/or are working in business. You want to become an expert in measuring results and using data analytics to drive business and innovation.

**TECHNOLOGY**
You want a front-office job where you can use technology and data to be an integral part of core business decisions.

**QUANTITATIVE**
You studied and/or are doing quantitative work in engineering, statistics or social research. You want to learn how to measure performance in an organization and become an expert in using analytics to drive innovation.

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Please Note: The information contained in this brochure is subject to change. IE reserves the right to modify program content, regulations and policies when deemed appropriate and in the best interest of the IE community. Please contact the program management team should you have any questions.