

MSc Data Science for Business



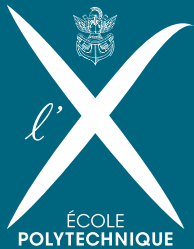
Taught jointly by École Polytechnique and HEC Paris, the MSc Data Science for Business aims at equipping students with a dual competence, in both the scientific and business fields.

Students will have the opportunity to broaden their knowledge in the Data Science field and to gain valuable and various skills such as:

- In-depth understanding of machine learning techniques
- State-of-the-art of data sciences programming skills
- How to make a big data project succeed in the corporate world
- Theoretical understanding of main statistical algorithms
- Real company data challenges

Career outcomes:

Financial, banking and insurance sector (BPCE, Natixis, BNP Paribas, Société Générale, Barclays, HSBC, AXA); telecommunications and digital (Orange, IBM, Google, Facebook, Criteo, start-ups); manufacturing IT industry; e-commerce and retail companies (Amazon, FNAC, Cdiscount); consultancy agencies (McKinsey, Accenture, Capgemini Consulting...) and business intelligence (Keyris, Sopra Group, Capgemini Consulting, SAP-Business Object, SAS); data-driven marketing industry; media and the leisure industry.



Academic requirement

Bachelor's degree in Science, Engineering or Economics

Candidates with other degrees may be considered, provided that they have a strong background in the above-mentioned subjects.

Application fee

€100

Annual tuition fees

€19,850

Scholarships and financial aid are available for the best applicants. Please consult our website for further information:

<http://portail.polytechnique.edu/graduatedegree>



REFRESHERS FOR STUDENTS WITH A BUSINESS/MANAGEMENT BACKGROUND

- Probability
- Mathematical foundations of data science

MANDATORY COURSES

- Statistics
- Introduction to Machine Learning
- Regression
- R for Data Science
- Data Camp Projects
- Machine Learning II
- Database Management
- Statistics in action
- Python for Data Science

Students will learn how to perform a complete data analysis, from data manipulation, exploration, visualization to analysis with powerful machine learning methods and to communicate and deploy their solution.

4-month internship in a company

Students can choose between two specializations:

1 | STRATEGIC MANAGEMENT SPECIALIZATION

CORE COURSES

- Core Methodologies for Strategy Consulting
- Financial Dimension of Strategic Decisions
- Strategic Analysis of Negotiation Games
- Strategic Management Accounting
- Strategic Marketing

EXAMPLES OF ELECTIVE COURSES

- Business Analytics
- Digital Transformation, Media and Beyond
- From Digital to Big Data
- Internet-Based Business Models
- Managing Global Complexity
- Strategy for Multi-Sided Platforms

Workshops with Consulting Firms

Company Project,

Study Trip (London, Berlin, New York...)

2 | DIGITAL BUSINESS SPECIALIZATION

CORE COURSES

- Numerical Strategy
- Internet and Telecom Economics
- Strategic Marketing and Business Models of the Digital Age
- Digital Marketing (SEO and SEM, CRM, Display, retargeting and other digital tools, Apps)
- Social Media Management
- Big Data/Big Business
- E-reputation, Crisis Management and Economic Intelligence
- New Digital Economy Law

FURTHER TRACKS

- Digital Entrepreneurship
- Digital Transformation

CHALLENGES WITH FIRMS

- Big Data
- Connected Objects
- Digital Consumer
- E-Commerce

Case Study: Digital Strategy

Study Trip (London, New York...)

Research Thesis