

| le savoir vivant |

EXECUTIVE EDUCATION  
EXECUTIVE CERTIFICATE

# DATA SCIENCE & MANAGEMENT

TRANSFORMATION TOWARDS  
THE DATA-DRIVEN ENTERPRISE



ÉCOLE POLYTECHNIQUE  
FÉDÉRALE DE LAUSANNE

*Unil*

UNIL | Université de Lausanne

HEC Lausanne

## TARGET AUDIENCE

Key stakeholders driving the transformation towards a data-driven enterprise, e.g.

- (Future) Chief Data Officers and drivers of big data initiatives
- Data champions in business lines (HR, Marketing, Operations, ...)
- BI/Data managers, data engineers and data architects

## KEY INFORMATION



Certificate of Advanced Studies (CAS)  
jointly delivered by HEC Lausanne-UNIL & EPFL

Location: UNIL-EPFL campus

Academic Direction  
@ HEC Lausanne - UNIL:  
Prof. Christine Legner

Academic Direction  
@ EPFL/Swiss Data Science Center:  
Dr. Olivier Verscheure



Language: English



4 blocks of 4 days each  
+ the Individual Data Project over 9 months

15 ECTS credits

Starts: June 2018

Registration Deadline: May 25<sup>th</sup>



CAS: CHF 17'000.-  
or CHF 5'000.-/block

## PROGRAMME STRUCTURE

### BLOCK 1: THE DATA-DRIVEN ENTERPRISE

Driving business value with data

- Datafication and the data economy
- Transformation towards the data-driven enterprise
- Strategic, cultural and technological challenges

Data value chain

- Data-driven approaches in the analysis of business problems
- Data science methodologies in the creation of business value
- Real-world use cases and business application

### BLOCK 2: FROM DATA TO INSIGHTS

From disconnected data sources to a data lake

- Big Data architectures
- Data integration
- Scaling out and industrialization

Using the data lake to extract actionable insights

- Business intelligence to foster trust in data-driven approaches
- From descriptions to predictions to actions

### BLOCK 3: MANAGING DATA AS A STRATEGIC ASSET

Data transparency, quality and data valuation

- The data landscape – traditional enterprise data and new data sources (IoT, social media, ...)
- Data quality - definition, assessment and controlling
- Data valuation: market prices, reproduction costs and value in use

Data governance and organization

- Roles: Data scientists, data engineers, data managers and data citizens
- Standards, methods and processes for managing data life-cycle and data value chains
- Mindset change – towards a data sharing culture

### BLOCK 4: DATA PRIVACY, ETHICS AND INNOVATION

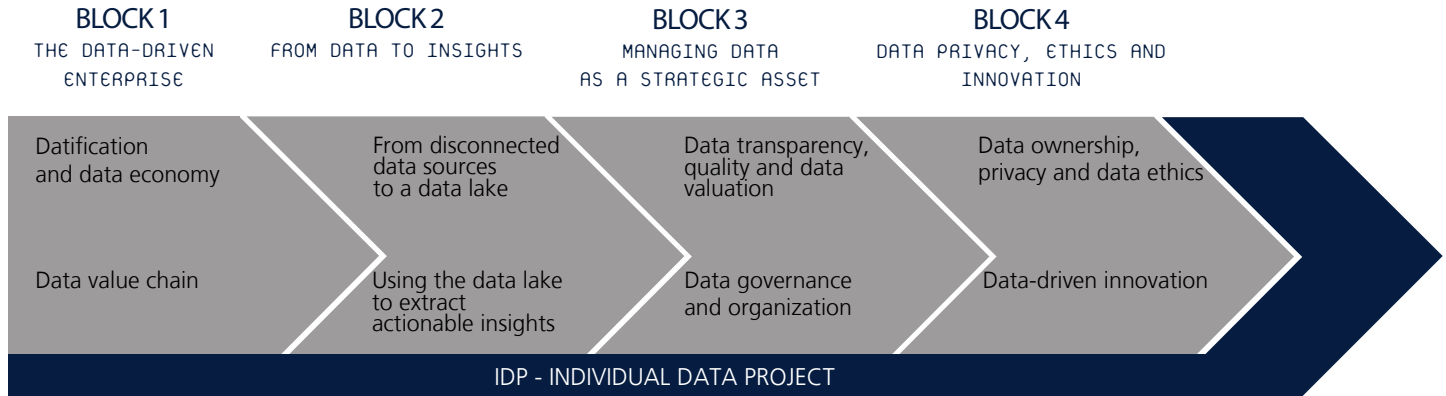
Data ownership, privacy and data ethics

- Data ownership and data sovereignty
- Data privacy and regulations (GDPR, ...)
- Ethical issues of data science for business leaders

Data-driven innovation

- Data-driven business models
- Crowdsourcing and citizen science

# PROGRAMME AT A GLANCE



## LEARNING OBJECTIVES

Develop the required skills to master the transformation towards the data-driven enterprise:

- Drive business value with data;
- Design data value chains from data to information and insights;
- Create a data culture and organization;
- Respect ethical principles and privacy concerns.

## IDP - INDIVIDUAL DATA PROJECT

The capstone project of the Data Science and Management Executive Certificate is the “Individual Data Project”. Participants are encouraged to start the programme with a concrete “data transformation” ambition in mind (usually for their employer). They will develop their project throughout the programme with the support of HEC Lausanne - UNIL & EPFL Faculty and Experts.

## ADMISSION CRITERIA

- Hold a university/HES degree or experience considered equivalent by the programme management;
- A minimum of 5 years of professional experience;
- Fluency in English.

FOR FURTHER INFORMATION & ONLINE REGISTRATION  
[EXECED.UNIL.CH/CERTIFICATE-DATA](https://execed.unil.ch/certificate-data)

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With the support of the Swiss Data Science Center:

