



#### Location

Self-paced online program



#### Tuition fee\*

€2,400



#### Language

English



#### Duration

Each module takes about 2 weeks  
Equivalent to 1 program day



#### Certificate

You receive a certificate upon completion of the program.

#### Postgraduate Diploma in Management

Each module counts toward 1 of the 18 days necessary to receive the diploma.



[execed.esmt.berlin/analytics](https://execed.esmt.berlin/analytics)

Have you ever looked at your company's data and wondered how you could use it to add value to your business? Do you read the quarterly report from your data-science team wishing you had the confidence to turn its insights into optimal decisions? Do you want to learn how data analytics can optimize processes and drive evidence-based decision making? If you answered yes to any of these questions, you will benefit from this program. With ever more access to data, managerial decision-making is increasingly data-driven. This program focuses on building the thinking skills necessary to become an informed and empowered user of analytics.

## Who should attend the program?

Senior managers and executives who aim to: implement data-driven decisions; understand the principles of analytics; acquire the knowledge and communication skills needed to steer their data analysts. The course is also tailored to company advisors as well as managers who are confronted with specific analytics challenges and expected to produce concrete proposals on how to distill and extract value from data functions.

## Key topics

- **Analytics Fundamentals:** basic tools for becoming a discerning user of quantitative analyses
- **Advanced Analytics:** journey into predictive analytics, focusing on regression and cluster analysis
- **Decision Trees and Risk Analysis:** decision trees as an advanced tool to address uncertainty in complex, sequential decisions by mapping out, organizing, and analyzing decision paths and chance events
- **Machine Learning and Artificial Intelligence:** how machine learning can enhance, automate, and scale business decision-making processes

## Teaching methods

Individual coaching

E-learning sessions

Business cases

Online networking events

Video tutorials

Individual exercises

Executive keynotes with practitioners

## Module 1 – Analytics Fundamentals

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September 12 – 23, 2022

- Risk, uncertainty, and errors
- Data as a guide to the unknown
- Descriptive analytics: key indicators
- Predictive analytics: model-building

## Module 2 – Advanced Analytics

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September 26 – October 10, 2022

- Knowing your customers: segmentation models
- Keeping your customers (happy): churn models
- From predictive to prescriptive analytics

## Module 3 – Decision Trees and Risk Analysis

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October 10 – 21, 2022

- Decision trees and decision making under uncertainty
- Sensitivity analysis and risk profile
- Basics of Monte Carlo simulation
- Entropy and information gains

## Module 4 – Machine Learning and Artificial Intelligence

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October 10 – November 11, 2022

- Fundamentals of machine learning
- Random forests and neural networks
- Preparing high-quality data and optimizing models

### Key benefits

- ✔ Selecting the most relevant modules for your daily needs
- ✔ Getting acquainted with standard software packages
- ✔ Gaining a better understanding of how your analytics challenges can be operationalized and resolved

\*For general terms and conditions and details on the application process, please go to: [execed.esmt.berlin/gtc](https://execed.esmt.berlin/gtc)



Catalina Stefanescu-Cuntze

## Faculty

### Catalina Stefanescu-Cuntze

is a professor of management science at ESMT Berlin. Her research focus lies in the design, analysis, and application of statistical models for managerial decision making.

### Jens Weinmann

is a program director at ESMT Berlin. His research focus lies in the analysis of decision making in regulation, competition policy, and innovation.

## Contact

### ESMT Berlin

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Data are just summaries of thousands of stories – tell a few of those stories to help make the data meaningful.

Chip & Dan Heath,  
Authors of *Made to Stick*, *Switch*

Without big data analytics, companies are blind and deaf, wandering out onto the Web like deer on a freeway.

Geoffrey Moore,  
Author of *Crossing the Chasm* & *Inside the Tornado*