

# APPLIED DATA SCIENCE & ARTIFICIAL INTELLIGENCE

Today's executives and management teams are facing all new challenges in decision-making processes, and it is becoming fundamental to have an understanding of artificial intelligence and big data in order to make informed business decisions. Data driven business models are creating competitive advantages for those who know how to harness the potential of these tools. A wave of innovation in these areas have created an opportunity for companies to truly disrupt the market – provided they know how to efficiently apply these concepts in practice.

## OVERVIEW

---

The Applied Data Science & AI program has been specially developed by Goethe Business School in cooperation with Tech Quartier, to address executives, managers, team leads and decision makers who are looking to better understand Data Science & AI applications for their organizations. The program aims to develop not only a knowledge and understanding of data science and AI and how they are transforming business today, but also the ability to apply various tools and methods hands-on, ensuring you are capable of more than just thinking about data science – you are capable of executing, together with your team, real solutions. Participants will be able to develop scalable and effective data-driven organisations and be capable of implementing the latest models in practice.

## FORMAT

---

The program takes place over **3 modules in a blended learning format**, meaning some modules are online while others take place in-person. The program is **challenge driven** with elements of group work, combining technical skills with a practical, business focus to be transferred to your own organization through a challenge project completed during the modules. Results will be presented on the final day of the program and discussed with other participants. Upon completion of the program, participants will receive a certificate awarded by the Goethe Business School Executive Education department.

## MODULE 1: UNDERSTANDING POTENTIALS OF DATA AND AI AS A BUSINESS VALUE

2 DAYS ONLINE

## LEARNING OBJECTIVES:

- **Statistics & Analytics for business: Moving from traditional statistics to prediction with machine learning**
- **Big Data: What does it really mean?**
- **Relationship between AI/ML technologies, AI/ML capabilities and business applications (across functional areas and industries)**
- **Forms of Human & AI collaboration in**

The program begins with a non-technical introduction to Data Science and AI. A focus is laid on understanding why these topics are relevant for management in every field, and critical for executives to understand in order to effectively implement within organizations.

Participants receive their challenge assignment at the end of this module.

## MODULE 2: UNDERSTANDING THE TECHNOLOGY

2 DAYS ON CAMPUS

## LEARNING OBJECTIVES:

- **Data Science/AI toolbox and technologies**
- **Data handling: Finding, collecting, modelling and storing data**
- **Evaluating data science / machine learning algorithms for decision-making**
- **Visualization, representation and interpretation:**

In this module, participants expand on their basic understanding of data science and AI developed in module 1, and focus on learning hands-on applications to machine learning. By developing a deeper technical understanding of the tools used, participants will be able to develop and apply solutions independently. An introduction to Python, R, and data visualization tools are presented using real data sets.

## MODULE 3: IMPLEMENTATION STRATEGY &amp; ORGANIZATION

ONLINE PRE-WORK AND 1 DAY ON CAMPUS

## LEARNING OBJECTIVES:

- **Developing operating models and scalable organizational structures**
- **How to organize for analytics (ecosystem organization)**
- **Data protection, data storage, and building analytical infrastructures (cloud vs. on-premise options; DSGVO)**

The final module brings the individual aspects of previous modules together and considers implementation within organizations. Scaling up to create a data-driven organization is the focus, with ethical, logistical, and legal considerations for your company brought into context.

In addition, projects will be presented during a final meeting on-campus.

## KEY FACTS

## COURSE DATES

Program runs over 3 weekends  
in Spring/Summer 2021:  
May 27/28 (online)  
June 17/18 (on campus)  
July 2 (on campus)

## COURSE MATERIALS

Course materials including case studies, lecture slides, etc. will be made available in electronic form.

## LANGUAGE

English

## PROGRAM FEE\*

Regular: 2.800€  
GBS Alumni: 2.240€

## VENUE

blended online & in-person format

## CERTIFICATE OF PARTICIPATION

Participants will receive a certificate of program completion awarded by GBS Executive Education upon completion of the program.

## CONTACT

Shannon Janke  
Tel: 069 798 33514

## REGISTRATION

Email: [janke@gbs.uni-frankfurt.de](mailto:janke@gbs.uni-frankfurt.de)

