



Certificate Course Digitalization: Data Science@HECTOR School

The certificate course **Data Science@HECTOR School** conveys knowhow on methods as well as statistic techniques and models to indicate, analyze and forecast relevant developments (e.g., consumer behavior) for different business segments.

The first complex of topics deals with the question, how company data can be aggregated and analyzed, and which data need to be collected to reliably forecast and determine the economic success of projects, measures and strategies? The second complex of topics focusses on how new business models can be developed by the investigation and transformation of company, customer, and external data, and how customer behavior can be modelled and analyzed. The third complex of topics finally concentrates on the generation of an according infratstructure within the company on a technical as well as organisational level.

Course Benefits & Take Away for Participants

The participants will

- understand the productive integration, transformation, and analysis of big and complex data as a central task of modern operational information systems;
- be able to analyse & optimize analytical processes across functional operational units within a company;
- possess analytical methods for the preprocessing, reduction and projection of company data and can align products, services and processes targeted according to strategic specifications and/or customer and market requirements;
- know basic techniques and tools for data access and models, as how they are applied for analytical purposes for reports and data visualization;
- know options for interacting when screening and interpreting data, like they are used in modern business intelligence systems.



Overview Course Agenda

	Day 1	Day 2	Day 3	Day 4	Day 5
8 am - 1 pm	Lecture	Lecture	Lecture	Lecture	Lecture
Lunch Break					
2 - 5:30 pm	Lecture	Excursion	Lecture	Excursion	Conclusion & Farewell

The course will focus on the following topics (for further information see the course details on the back):

- Business Data Strategy
- Business Intelligence Systems
- Consumer Behaviour Analysis
- Basics of Data Analysis with R
- Business Data Reduction
- Service Analytics
- Advanced Service Analytics

On the left: Exemplary Schedule of a 5-day Certificate Course

Agenda in Detail

Day 1:	Day 2:	Day 3:	Day 4:	Day 5:
<p>Business Data Strategy I</p> <p>Structure & overview to the problem areas and methods of resolution for business data acquisition and processing</p> <p>Business Intelligence Systems I</p> <p>Introduction, central functionalities, and management of current business intelligence systems</p>	<p>Business Data Strategy II</p> <p>Business Intelligence Systems II</p>	<p>Business Data Strategy III</p> <p>Business Intelligence Systems III</p> <p>Basics for Data Analysis with R I</p> <p>Introduction on the usage and data analysis of R Case Studies</p>	<p>Basics for Data Analysis with R I</p> <p>Consumer Behaviour Analysis</p> <p>Introduction of models, data streams and methods for analysis to generate business relevant information out of customer data</p>	<p>(Advanced) Service Analytics</p> <p>Conflicts of goals modelling for the prediction and analysis-methodology for the usage of complex, temporal structured customer data</p> <p>Business Data Reduction</p> <p>Illustration of challenge of analysing high dimensional data Introduction of data reduction methods</p>

Registration & Organizational Details

Duration	5 days
Price	3.500 € per participant
Group Size	max. 15 participants
Certificate	Certificate of the HECTOR School of Engineering & Management, Technology Business School of the Karlsruhe Institute of Technology (KIT)
Requirements	<p>First University Degree (Bachelor or equivalent)</p> <p>A minimum of 5 years of professional experience in the specific field of the course is recommended</p> <p>The course can be held in German or in English – appropriate skills in the respective language are required. For international companies translators can be hired.</p>
Registration	<p>Register online via</p> <p>www.hectorschool.kit.edu/certificate_courses.php</p>



For consultancy or company arrangements please contact:

Program Consultancy

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Course Instructors



Prof. Dr. Alexander Maedche
Prof. Dr. Christof Weinhardt
Prof. Dr. Thomas Setzer
Dr. Verena Dorner

The course instructors are experts within the KIT on the topic data science.

For further information on their backgrounds please visit our website.