Fachhochschule Dortmund
University of Applied Sciences and Arts

IDIAL Institute for the Digital Transformation of Application and Living Domains

Information Processing and Data Analytics 2026

Erasmus+ Blended Intensive Programme (BIP)

Dortmund University of Applied Sciences and Arts
7.–11. December 2026

Event Schedule 7–11 December 2026 — Location: Emil-Figge-Straße 44, Room: tba.

Monday, December 7	9:00–10:00	Welcome
	10:00–11:30	Lecture 1: Introduction
	11:30–12:30	Case Study: Introduction
	12:30–13:30	Lunch
	13:30–14:30	Lecture 2: Tools
	15:00–17:00	Social Event TBA.
Tuesday, December 8	09:00–10:30	Lecture 3: Theory & Tools
	10:30–12:30	Case Study: Group Work
	12:30–13:30	Lunch
	13:30–15:00	Lecture 4: Theory & Tools
	15:00–17:00	Case Study: Group Work
Wednesday, December 9	09:00–10:30	Lecture 5: Theory & Tools
	10:30–12:30	Case Study: Group Work
	12:30–13:30	Lunch
	13:30–14:30	Case Study: Group Work
	14:30–16:00	Lecture 6: Theory & Tools
	16:20–17:40	Social Event TBA.
	18:00–21:30	Social Event TBA.
Thursday, December 10	09:00–10:00	Lecture 7: TBA.
	10:00–12:30	Case Study: Group Work
	12:30–13:30	Lunch
	13:30–16:00	Case Study: Group Work
	17:00–18:00	Social Event TBA.
	19:00–22:30	Social Event TBA.
Friday, December 11	09:00–13:00	Case Study Presentations & Closing

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Learning Content and Methods

Modern project management relies on facts and data. Collecting and analysing data and deriving conclusions and decisions from it are therefore essential elements of project management. The module covers key topics in information processing and data analytics through a practical case study.

Students will be introduced to relevant concepts, methods and tools as well as literature for further reading. Working in international teams, students will complete a case study project in which they design small experiments for data collection, set up appropriate tools for data storage and querying, and analyse and process the collected data.

Information processing and data collection

- Development of indicator systems
- Design of data collection experiments with online tools
- IT tools for data collection
- Advanced MS Excel

Data bases and data warehouses

- 1Introduction to databases, SQL
- Data warehouse systems
- Cloud-based systems
- Analysis of Case Studies

Data analytics

- Data refinement
- Data analytics and business intelligence
- Probabilistic methods
- Artificial intelligence and learning

Teaching in this module will utilize diverse methods:

Students will be introduced to the relevant topics and to literature for further reading. Students will be guided through a case study project where they set up a small experiments for data collection, data storage and query and data processing for an example case. They form teams and set up IT tools.

- Lectures introducing concepts, methods and tools
- Group work in the case study project to practice concepts and methods, to develop skills and to work on case studies
- Presentations to communicate results and engage in scientific discussion and reflection

Learning Outcomes

Knowledge and Understanding:

The students

- explain the basic characteristics of data and data collection
- explain advanced functionality of Excel
- explain database and data warehouse concepts
- explain the core concepts of data analytics and business intelligence

Application and Generation of Knowledge:

The students are able to

- develop data collection experiments with online tools
- apply MS Excel for data analytics
- set up and use simple SQL databases
- set up and use tools for statistical data analysis

Communication and Cooperation:

The students

- train to reflect on the impact of their work and their projects
- train to do surveys with people from different cultural backgrounds
- are able to lead discussions and bring conflicting ideas and goals to a consensus
- develop a critical attitude to data based decision making

Scientific Self-Understanding / Professionalism:

The students are able to

- develop a critical attitude to issues like privacy and data protection
- apply their judgement on controversial topics and learn to lead a team to a consensus