Fachhochschule Dortmund
University of Applied Sciences and Arts

IDiAL Institute for the Digital Transformation of Application and Living Domains

EUCLiDES

FACT SHEET BIP

Name institution	Dortmund University of Applied Sciences and Arts (FH Dortmund) **Erasmus code:** D DORTMUN02
Title / Name BIP *(Enter the official name of the BIP)*	Information Processing and Data Analytics 2025
Abstract *(Brief summary of the activity – what it is about in 3–5 lines)*	Information Processing and Data Analytics 2025 is an international blended learning programme designed for students who want to develop hands-on skills in data-driven decision-making. Through a mix of virtual sessions and an intensive in-person week, participants explore data collection, analysis, and interpretation using tools like Excel, SQL, cloud platforms, and IBM Watson. Working in international teams on real-world case studies, students also strengthen their intercultural communication, teamwork, and digital literacy. In a world increasingly shaped by data and AI, these competencies are essential across all sectors from business to research to social impact.
Goal *(What is the main objective or purpose?)*	**Modern project management is based on facts and on data. Dealing with data, analysing data and deriving conclusions and decisions from data is crucial for project management. The module is developing the topics of information processing and data analytics along a case study.** **1. Information processing and data collection** 1.1 Development of indicator systems 1.2 Design of data collection experiments with online tools 1.3 IT tools for data collection 1.4 Advanced MS Excel **2. Data bases and data warehouses** 2.1 Introduction to databases, SQL 2.2 Data warehouse systems 2.3 Cloud based systems 2.4 Analysis of Case Studies **3. Data analytics** 3.1 Data refinement 3.2 Data analytics and business intelligence 3.3 Probabilistic methods 3.4 Artificial intelligence and learning (introduction to IBM Watson)

Topics covered *(List the key themes or subject areas that will be addressed)*	**<u>Teaching and Training Methods</u>** 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 do a scientific discussion and reflection
Expected outcome(s) *(What should students gain or achieve by the end?)*	**<u>Learning Outcomes</u>** **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 • use IBM Watson for AI experiments **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
Start and end date of the BIP	01-06 December 2025

Content of virtual component *(Describe any online or hybrid elements – e.g., webinars, online modules, collaborative tools)*	**Before presence phase:** • Basic introduction • Team building • Self learning phase, theory basics • Introduction case study • Preparation of physical component • online lecture: Prof. Dr. Katja Klingebiel, Digital Supply Chain Management, 28.10.2025, 10:15-11:45 (Physical component: Blockweek => Case Study) **After presence phase:** • Finalizing groupwork • Theory vs. Case Study • Reflection
Start and end date of the virtual component	03 November – 19 December 2025
Maximum number of students *(Total number of participants allowed)*	35
Maximum number per university *(Limit per institution, if applicable)*	NA
Webpage	TBD
BIP ID *(If already available)*	TBD