DHBW
Duale Hochschule
Baden-Württemberg
Heilbronn

Business Informatics

Course Catalogue 2026

New Course offerings 2026

Starting this fall 2026, we will be offering courses in English in the field of business informatics for international exchange students.

These will include courses in **business informatics, data science and AI**.
Combining key perspectives from information systems, digital technologies and business administration, these courses aim to equip students with the practical, interdisciplinary skills required in today's global job market.

Below is a more detailed description of the individual courses we will be offering in the fall semester 2026.

Course descriptions:

Mandatory courses for all participants of the Heilbronn International Program

Online Module "Europe, Germany and Heilbronn: A historical and cultural journey of discovery "// 1 ECTS (Examination quiz after each unit)

This online German history and culture module aims to prepare our international students for their stay in Germany. The students go through a completely digital self-study path, which can be completed independently in preparation for their stay. The module is designed for around 25-30 hours over a total duration of 6 weeks. After completing the module, students should:

1. Have a basic knowledge of German history and understand its influence on today's society.
2. Recognize and reflect on Germany's cultural characteristics and values.
3. Have a basic understanding of German political systems and institutions.
4. Acquire specific knowledge about the Heilbronn region and understand its historical, cultural and economic significance.

Intercultural Management (W3BW_HD203_1) // 3 ECTS (Portfolio exam)

Intercultural Management explores the complexities of managing and leading in a globalized and diverse business world. Through engaging lectures and hands-on activities, you will learn how to effectively communicate and work with people from different cultural backgrounds, navigate cultural differences, and lead cross-cultural teams. You will also gain a deeper understanding of how cultural values and beliefs impact business practices and decision-making.

Trends in International Management (W3BW_HD203_2) // 2 (+2) ECTS (Portfolio exam)

Trends in International Management is a dynamic class that examines the latest trends, developments and technologies in the field of international management. In this class, you will learn about emerging markets and globalization, as well as how to adapt to and thrive in an increasingly interconnected and fast-paced business environment. You will also have the opportunity to explore real-world case studies and engage in interactive discussions with your classmates and instructor. Students have the choice of obtaining 2 (class participation and presentation) or 4 ECTS (class participation, presentation and written assignment).

Elective courses

Methods in Business Information Systems II Case Study (Portfolio exam) // 2.5 ECTS

This lecture is built upon foundational knowledge of how IT systems are conceptualized and created under practical conditions. It encompasses the entire development lifecycle, ensuring a seamless link between analysis, design, and programming. By utilizing effective team organization, the lecture proactively addresses typical problems in project execution, ensuring stability even under shifting real-world requirements. Through the targeted application of methods and tools, the focus lies on the independent development of solution concepts that are both technically sound and resource-efficient. The lecture is rounded off by the professional planning, implementation, and presentation of work results, demonstrating a comprehensive understanding of modern software engineering standards.

Applied Machine Learning Fundamentals (written exam, 1 hour) // 2.5 ECTS

This module explores advanced topics not covered in introductory courses. The primary focus is placed on the properties and applications of specific algorithms, ensuring students can bridge the link between analysis, design, and programming in complex AI environments. Through the independent development of solution concepts, students will learn to manage problems in project execution and refine their team organization skills. The course culminates in the professional planning, implementation, and presentation of work results. To participate in this lecture, students must possess solid foundational knowledge in computer science, specifically regarding mathematical foundations (linear algebra, probability, and calculus) and proficient programming skills. Furthermore, a mastery of Machine Learning fundamentals and foundational knowledge of how IT systems are conceptualized and created under practical conditions are strictly required.

Web Programming (Portfolio exam) // 2.5 ECTS

This lecture provides a comprehensive deep dive into the development of modern web applications. It emphasizes the seamless link between analysis, design, and programming while focusing on effective team organization. Students will learn to navigate typical problems in project execution by utilizing professional methods and tools and by engaging in the independent development of solution concepts. The course concludes with the structured planning, implementation, and presentation of work results. Students are required to have solid foundational knowledge in computer science, as well as initial experience with web technologies. Additionally, a foundational knowledge of how IT systems are conceptualized and created under practical conditions is essential for success in this course.

Statistics (written exam, 1 hour) // 2.5 ECTS

This lecture guides students through the entire data lifecycle—from initial collection to predictive modeling. It emphasizes the link between analysis and design in statistical workflows. Students will apply professional methods and tools to manage problems in project execution, such as data quality issues or model bias. The course focuses on the independent development of solution concepts and concludes with the systematic planning, implementation, and presentation of work results. Students must possess solid mathematical foundations (specifically in algebra and calculus).

Key Qualifications III / Business Simulation (Portfolio exam) // 2.5 ECTS

The core of this lecture is the execution of a sophisticated business or project simulation (Serious Game) involving multiple teams. This immersive environment requires effective team organization and a seamless link between analysis, design, and programming of strategic plans. Students will face realistic problems in project execution, requiring the independent development of solution concepts to maintain profitability and operational efficiency. The course concludes with the professional planning, implementation, and presentation of work results. To participate in this lecture, students must possess foundational knowledge of business administration as well as established knowledge of Business Information Systems and IT.

Exploring Business Information Systems (Portfolio exam) // 5 ECTS

This lecture and seminar provide deep insights into current trends in Business Information Systems (BIS) and the management of information technology. A key focus is the independent development of solution concepts for current industry challenges, requiring the strategic application of methods and tools. The course concludes with the professional planning, implementation, and presentation of work results. Students must be capable of linking previously acquired knowledge in Computer Science and Business Administration to solve corporate challenges - such as through modeling or prototype development- within a team organization.

Business Processes and their Implementation (Portfolio exam) // 5 ECTS

In this lecture, students gain comprehensive factual knowledge regarding methods of business process modeling and optimization. The course emphasizes the link between analysis and design, enabling students to assess the practical applicability of various methodologies. Participants will develop the skills to conceive a full-scale project in this field, utilizing effective team organization and professional methods and tools. Through the independent development of solution concepts, students learn to overcome problems in project execution, concluding with the rigorous planning, implementation, and presentation of work results. Students are required to have foundational knowledge of business administration, process modeling, and analytical competence, as well as foundational knowledge of project management.

Social Network Analysis (Portfolio exam) // 2.5 ECTS

This lecture enables students to evaluate the utility and added value of integrating social graph analysis, stream data, and simulation-based optimization scenarios with corporate data. The course emphasizes the link between analysis, design, and programming, teaching students the specific software architectures and components necessary for these tasks. Through the independent development of solution concepts, students learn to navigate problems in project execution related to large-scale data. The module concludes with the professional planning, implementation, and presentation of work results. Students must possess a solid background in computer science, programming, mathematics, and statistics, along with a fundamental understanding of social dynamics.

Stochastics (written exam, 2 hours) // 2.5 ECTS

This lecture equips students with the ability to model stochastic processes and master the fundamental rules of probability. By emphasizing the link between analysis and design, students learn to identify which distributions apply to specific practical contexts. The course fosters the independent development of solution concepts for uncertain environments, requiring systematic team organization during practical exercises. The module concludes with the professional planning, implementation, and presentation of

work results involving probabilistic data. Students are required to have solid foundational knowledge in mathematics, specifically in Calculus (Analysis) and Linear Algebra.

Modern Database Concepts (written exam, 2 hours) // 5 ECTS

In this course, students learn to design, implement, and query databases using modern data modelling techniques. The lecture emphasizes the connection between conceptual analysis, relational design, and practical implementation, with a strong focus on Entity-Relationship modelling and normalization. Students apply Structured Query Language (SQL) to define database schemas, enforce data integrity, and formulate complex queries.

In addition, the course introduces semi-structured data storage and NoSQL databases, highlighting their differences from relational systems and typical application scenarios. Practical exercises enable students to access and process both relational and NoSQL databases using Python and to apply the acquired concepts in realistic scenarios.

Basic programming skills and introductory knowledge of databases are required.