

## Business Intelligence

Module Code: DLBCSEBI1

<b>Module Type</b> see curriculum	<b>Admission Requirements</b> none	<b>Study Level</b> BA	<b>CP</b> 5	<b>Student Workload</b> 150 h
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<b>Semester / Term</b> see curriculum	<b>Duration</b> Minimum 1 semester	<b>Regularly offered in</b> WiSe/SoSe	<b>Language of Instruction and Examination</b> English
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### Module Coordinator

Prof. Dr. Sebastian Werning (Business Intelligence )

### Contributing Courses to Module

- Business Intelligence (DLBCSEBI01)

### Module Exam Type

#### Module Exam

Study Format: myStudies  
Exam, 90 Minutes

Study Format: Distance Learning  
Exam, 90 Minutes

#### Split Exam

### Weight of Module

see curriculum

### Module Contents

- Motivation and Conceptualization
- Data Provision
- Data Warehouse
- Modeling of Multidimensional Data Spaces
- Analysis Systems
- Distribution and Access

**Learning Outcomes****Business Intelligence**

On successful completion, students will be able to

- explain the motivation, use cases, and basics of Business Intelligence.
- identify and explain techniques and methods for providing and modeling data, as well as types of data relevant to BI, differentiating between them.
- explain techniques and methods for the generation and storage of information and independently select suitable methods on the basis of concrete requirements.

**Links to other Modules within the Study Program**

This module is similar to other modules in the fields of Computer Science & Software Development

**Links to other Study Programs of the University**

All Bachelor Programmes in the IT & Technology fields

# Business Intelligence

Course Code: DLBCSEBI01

Study Level	Language of Instruction and Examination	Contact Hours	CP	Admission Requirements
BA	English		5	none

## Course Description

Business Intelligence (BI) is used to obtain information from company data that is relevant for targeted corporate management and the optimization of business activities. This course introduces and discusses techniques, procedures, and models for data provision, information generation, and analysis, as well the distribution of the information obtained. You will then be able to explain the various subject areas of data warehousing and independently select methods and techniques to meet specific requirements.

## Course Outcomes

On successful completion, students will be able to

- explain the motivation, use cases, and basics of Business Intelligence.
- identify and explain techniques and methods for providing and modeling data, as well as types of data relevant to BI, differentiating between them.
- explain techniques and methods for the generation and storage of information and independently select suitable methods on the basis of concrete requirements.

## Contents

1. Motivation and Conceptualization
  - 1.1 Motivation and Historical Development
  - 1.2 BI as a Framework
2. Data Provision
  - 2.1 Operative and Dispositive Systems
  - 2.2 The Data Warehouse Concept
  - 2.3 Architectural Variations
3. Data Warehouse
  - 3.1 ETL Process
  - 3.2 DWH and Data Mart
  - 3.3 ODS and Metadata

4. Modelling of Multidimensional Data Spaces
  - 4.1 Data Modeling
  - 4.2 OLAP Cubes
  - 4.3 Physical Storage
  - 4.4 Star and Snowflake Scheme
  - 4.5 Historicization
5. Analysis Systems
  - 5.1 Free Data Research and OLAP
  - 5.2 Reporting Systems
  - 5.3 Model-Based Analysis Systems
  - 5.4 Concept-Oriented Systems
6. Distribution and Access
  - 6.1 Information Distribution
  - 6.2 Information Access

**Literature****Compulsory Reading****Further Reading**

- Grossmann, W., & Rinderle-Ma, S. (2015). Fundamentals of business intelligence. Springer.
- Kolb, J. (2013). Business intelligence in plain language: A practical guide to data mining and business analytics. Createspace.
- Sharda, R., Delen, D., & Turban, E. (2014). Business intelligence and analytics: Systems for decision support. Pearson.
- Sherman, R. (2014). Business intelligence guidebook: From data integration to analytics. Morgan Kaufmann.
- Vaisman, A., & Zimányi, E. (2016). Data warehouse systems: Design and implementation. Springer.

**Study Format myStudies**

<b>Study Format</b> myStudies	<b>Course Type</b> Lecture
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<b>Information about the examination</b>	
<b>Examination Admission Requirements</b>	<b>BOLK:</b> yes <b>Course Evaluation:</b> no
<b>Type of Exam</b>	Exam, 90 Minutes

<b>Student Workload</b>					
<b>Self Study</b>	<b>Contact Hours</b>	<b>Tutorial</b>	<b>Self Test</b>	<b>Independent Study</b>	<b>Hours Total</b>
90 h	0 h	30 h	30 h	0 h	150 h

<b>Instructional Methods</b>		
<input type="checkbox"/> Learning Sprints®	<input type="checkbox"/> Review Book	<input type="checkbox"/> Sprint
<input checked="" type="checkbox"/> Course Book	<input type="checkbox"/> Creative Lab	<input type="checkbox"/> Interactive Online Lecture
<input type="checkbox"/> Vodcast	<input type="checkbox"/> Guideline	
<input checked="" type="checkbox"/> Shortcast	<input type="checkbox"/> Live Tutorium/Course Feed	
<input checked="" type="checkbox"/> Audio	<input type="checkbox"/> Reader	
<input checked="" type="checkbox"/> Exam Template	<input checked="" type="checkbox"/> Slides	

**Study Format Distance Learning**

<b>Study Format</b> Distance Learning	<b>Course Type</b> Online Lecture
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<b>Information about the examination</b>	
<b>Examination Admission Requirements</b>	<b>BOLK:</b> yes <b>Course Evaluation:</b> no
<b>Type of Exam</b>	Exam, 90 Minutes

<b>Student Workload</b>					
<b>Self Study</b>	<b>Contact Hours</b>	<b>Tutorial</b>	<b>Self Test</b>	<b>Independent Study</b>	<b>Hours Total</b>
90 h	0 h	30 h	30 h	0 h	150 h

<b>Instructional Methods</b>	
<input type="checkbox"/> Learning Sprints® <input checked="" type="checkbox"/> Course Book <input type="checkbox"/> Vodcast <input checked="" type="checkbox"/> Shortcast <input checked="" type="checkbox"/> Audio <input checked="" type="checkbox"/> Exam Template	<input type="checkbox"/> Review Book <input type="checkbox"/> Creative Lab <input type="checkbox"/> Guideline <input type="checkbox"/> Live Tutorium/Course Feed <input type="checkbox"/> Reader <input checked="" type="checkbox"/> Slides