MODULE HANDBOOK

Bachelor of Arts

Bachelor Digital Business (FS-BADBE-01)

180 CP

Distance Learning

As of April 23rd, 2024

INTERNATIONAL
UNIVERSITY OF
APPLIED SCIENCES

Classification: Undergraduate

Contents

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3. Semester

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4. Semester

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5. Semester

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6. Semester

1. Semester

Digital Business Models

Module Code: DLBLODB_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Muhammad Ashfaq (Digital Business Models)

Contributing Courses to Module

- Digital Business Models (DLBLODB01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Exam or Advanced Workbook, 90 Minutes Study Format: myStudies Exam or Advanced Workbook, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Meaning, origin and definition of the term "digital business model”
- Basic concepts for the description of business models
- Tools for the description of business models
- Patterns of digital business models
- Digital business models and business plans

Learning Outcomes

Digital Business Models

On successful completion, students will be able to

- understand what a business model is and how to describe it systematically.
- outline the basic features of the historical development of business models.
- describe key digital business models and evaluate their advantages and disadvantages.
- establish the relationship between a business model and a business plan to independently derive and analyse the positioning of a company.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the Business Administration and Management fields	All Bachelor Programmes in the Business & Management fields

Digital Business Models

Course Code: DLBLODB01_E

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

Course Description

A business model contains the depiction of the logic of how a company generates, delivers and secures value. The progressing digitalization of many processes, products and services has made possible a large number of innovations in the area of business models in recent years. The subject of this course rounds up the presentation, the underlying patterns and the main factors that influence these digital business models.Starting from a general definition of the concept of a business model, a system is developed to describe the essential factors of a business model. An overview of the historical development of important business models and in particular the influence of digitization on newer business models allows a classification of the concept and an understanding of the framework.Then the most important alternative digital business models of recent years are systematically presented, analyzed and evaluated with regard to their respective strengths and weaknesses.Finally, the role of business models in the creation process of a business plan is described. Students learn the central approaches to developing an independent corporate positioning and are enabled to examine and evaluate the central factors influencing corporate success in digital business.

Course Outcomes

On successful completion, students will be able to

- understand what a business model is and how to describe it systematically.
- outline the basic features of the historical development of business models.
- describe key digital business models and evaluate their advantages and disadvantages.
- establish the relationship between a business model and a business plan to independently derive and analyse the positioning of a company.

Contents

1. Meaning, Origin and Definition of the Term "Digital Business Model
   - 1.1 Goals and Functions of Digital Business Models
   - 1.2 Business Model - Origin of the Term and its Meaning in the Digital Economy
   - 1.3 Definition of the terms Business Model and Digital Business Model
   - 1.4 Differentiation from Other Terminologies of the Digital Economy
2. Basic Concepts for the Description of Business Models
   - 2.1 Value Chain by Porter

2.2 Value-added Chain
2.3 Dominant Logic
2.4 Revenue Model
2.5 Unique Selling Proposition
2.6 Transaction
2.7 Product or Service Range

3. Tools for the Description of Business Models
   3.1 Business Model Canvas
   3.2 St. Gallen Business Model Navigator
   3.3 MIT Framework

4. Patterns of Digital Business Models
   4.1 Long Tail
   4.2 Multi-Sided Pattern
   4.3 Free and Freemium
   4.4 OPEN API Pattern

5. Digital Business Models and Business Plans
   5.1 Integration of the Business Model into the Business Plan
   5.2 Company Positioning and the Digital Business Model
   5.3 Digital Business Models as Innovation Drivers for the Development of New Businesses

Literature

Compulsory Reading

Further Reading

- Gassmann, O., Frankenberger, K., & Choudury, M. (2020). The business model navigator: The strategies behind the most successful companies (Second edition). FT Financial Times publishing. Pearson Education, Limited.
- Weil, P., & Woerner, S. L. (2018). What's your digital business model? Six questions to help you to build the next-generation enterprise. Harvard Business Review Press.
- Wirtz, B. W. (2019). Digital Business Models: Concepts, Models, and the Alphabet Case Study (1st edition 2019). Progress in IS. Springer International Publishing.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Advanced Workbook, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Advanced Workbook, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
	☑ Slides	

Business 101

Module Code: DLBBAB_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Andreas Herrmann (Business 101)

Contributing Courses to Module

- Business 101 (DLBBAB01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Exam or Written Assessment: Written Assignment, 90 Minutes Study Format: myStudies Exam or Written Assessment: Written Assignment, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Businesses and their environment
- Types of business organizations
- Management and structure of business
- Production of goods and services
- Marketing of products and services
- Management of labor
- Accounting in business

Learning Outcomes

Business 101

On successful completion, students will be able to

- apply business and economic thinking and working methods.
- explain economic subjects and questioning models of business administration.
- classify and formulate corporate goals.
- describe and apply a general business decision-making process.
- recognize and design the organizational structure and process organization in the company.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programmes in the Business field

Business 101

Course Code: DLBBAB01_E

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

Course Description

Business 101 deals with the basics of general business administration. It provides students with an understanding of the fundamental questions of doing business. In addition, basic organizational approaches of companies are shown. With the successful completion of the course, the students have gained fundamental knowledge in general business administration. This course lays the foundation for the advanced modules in the further course of their studies.

Course Outcomes

On successful completion, students will be able to

- apply business and economic thinking and working methods.
- explain economic subjects and questioning models of business administration.
- classify and formulate corporate goals.
- describe and apply a general business decision-making process.
- recognize and design the organizational structure and process organization in the company.

Contents

1. Businesses and their environment
   - 1.1 Concepts of business
   - 1.2 A system of economic relationships
   - 1.3 Business environment
2. Types of business organizations
   - 2.1 Companies in production and service
   - 2.2 Divisions of companies
3. Management and structure of business
   - 3.1 Basics of Business Management
   - 3.2 Functions of organizations, managers and control
   - 3.3 The decision making process
   - 3.4 Organizational structure of business
4. Production of goods and services

4.1 Origin and development of the production process
4.2 Industrial strategy of business

5. Marketing of goods and services
   5.1 Goals and types of marketing
   5.2 Marketing mix

6. Management of labor
   6.1 Process of management of labor
   6.2 Demand in labor
   6.3 Human relations in organizations

7. Accounting in business
   7.1 Functions and goals of accounting
   7.2 Spheres of accounting
   7.3 Fundamental principles of accounting

Literature

Compulsory Reading

Further Reading

- Covey, S. R. (2013). *The 7 habits of highly effective people: powerful lessons in personal change* (25th anniversary edition). Simon & Schuster.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		☑ Guideline

Introduction to Academic Work

Module Code: DLBCSIAW

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Brigitte Huber (Introduction to Academic Work)

Contributing Courses to Module

- Introduction to Academic Work (DLBCSIAW01)

Module Exam Type

Module Exam	Split Exam
Study Format: myStudies Basic Workbook (passed / not passed) Study Format: Distance Learning Basic Workbook (passed / not passed)	

Weight of Module

see curriculum

Module Contents

- Scientific Theoretical Foundations and Research Paradigms
- Application of Good Scientific Practice
- Methodology
- Librarianship: Structure, Use, and Literature Management
- Forms of Scientific Work at IU

Learning Outcomes

Introduction to Academic Work

On successful completion, students will be able to

- understand and apply formal criteria of a scientific work.
- distinguish basic research methods and identify criteria of good scientific practice.
- describe central scientific theoretical basics and research paradigms and their effects on scientific research results.
- use literature databases, literature administration programs, and other library structures properly; avoid plagiarism; and apply citation styles correctly.
- apply the evidence criteria to scientific texts.
- define a research topic and derive a structure for scientific texts.
- compile a list of literature, illustrations, tables, and abbreviations for scientific texts.
- understand and distinguish between the different forms of scientific work at IU.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Methods	All Bachelor Programs in the Business field

Introduction to Academic Work

Course Code: DLBCSIAW01

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

Course Description

The application of good scientific practice is one of the basic academic qualifications that should be acquired while studying. This course deals with the distinction between everyday knowledge and science. This requires a deeper understanding of the theory of science, as well as the knowledge of basic research methods and instruments for writing scientific texts. The students therefore gain initial insight into academic research and are introduced to the basic knowledge that will help them in the future to produce scientific papers. In addition, the students receive an overview of the different IU examination forms and insight into their requirements and implementation.

Course Outcomes

On successful completion, students will be able to

- understand and apply formal criteria of a scientific work.
- distinguish basic research methods and identify criteria of good scientific practice.
- describe central scientific theoretical basics and research paradigms and their effects on scientific research results.
- use literature databases, literature administration programs, and other library structures properly; avoid plagiarism; and apply citation styles correctly.
- apply the evidence criteria to scientific texts.
- define a research topic and derive a structure for scientific texts.
- compile a list of literature, illustrations, tables, and abbreviations for scientific texts.
- understand and distinguish between the different forms of scientific work at IU.

Contents

1. Theory of Science
   - 1.1 Introduction to Science and Research
   - 1.2 Research Paradigms
   - 1.3 Fundamental Research Decisions
   - 1.4 Effects of Scientific Paradigms on Research Design
2. Application of Good Scientific Practice
   - 2.1 Research Ethics
   - 2.2 Evidence Teaching

Literature
Compulsory Reading
Further Reading ▪ Bell, J., & Waters, S. (2018). Doing your research project: A guide for first-time researchers (7th ed.). Open University Press McGraw-Hill Education. ▪ Deb, D., Dey, R., & Balas, V. E. (2019). Engineering research methodology: A practical insight for researchers. Springer. ▪ Saunders, M., Lewis, P., & Thornhill, A. (2019). Research Methods for Business Students (8th ed.). Pearson. ▪ Veal, A. J. (2018). Research Methods for Leisure and Tourism (5th ed.). Pearson.

Study Format myStudies

Study Format	**Course Type**
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Basic Workbook (passed / not passed)

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Basic Workbook (passed / not passed)

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Introduction to Computer Science

Module Code: DLBCSICS

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Carsten Skerra (Introduction to Computer Science)

Contributing Courses to Module

- Introduction to Computer Science (DLBCSICS01)

Module Exam Type

Module Exam	Split Exam
Study Format: myStudies Exam, 90 Minutes Study Format: Distance Learning Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Information representation
- Algorithms and data structures
- Propositional logic / Boolean algebra
- Hardware
- Networks and the internet
- Software
- Computer science as a discipline

Learning Outcomes

Introduction to Computer Science

On successful completion, students will be able to

- understand basic algorithms and data structures.
- apply basic constructs of propositional logic in programming.
- describe the structure of computer hardware systems.
- specify the structure and the main services of the internet.
- discuss professional conduct in computer science.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Computer Science & Software Development.	All Bachelor Programs in the IT & Technology field.

Introduction to Computer Science

Course Code: DLBCSICS01

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

Course Description

The goal of this course is to provide an introduction to computer science and its main concepts. It covers basic topics such as information representation and an introduction to algorithms and data structures. Propositional logic and Boolean algebra are also introduced, both of which form an important basis in computer science, e.g., for expressing conditions in programming.Furthermore, the course introduces the three main components of computing infrastructures: hardware, networks, and software. Finally, the course covers the meta level by looking at the role of computer science as a discipline as well as ethics and professional conduct.

Course Outcomes

On successful completion, students will be able to

- understand basic algorithms and data structures.
- apply basic constructs of propositional logic in programming.
- describe the structure of computer hardware systems.
- specify the structure and the main services of the internet.
- discuss professional conduct in computer science.

Contents

1. Basic concepts of data processing
   - 1.1 Data, information and messages
   - 1.2 Software, firmware and hardware
   - 1.3 Languages, syntax and semantics
   - 1.4 Historical overview
2. Information representation
   - 2.1 Number representation formats
   - 2.2 Representation of non-numerical information
   - 2.3 Data types
   - 2.4 Redundancy and error tolerance
3. Algorithms and data structures
   - 3.1 Algorithms and flow diagrams

- 3.2 Simple data structures
- 3.3 Searching and sorting
- 3.4 Quality of algorithms (correctness, termination, efficiency/complexity)

4. Propositional logic, Boolean algebra and circuit design
   - 4.1 Propositions and logical conclusions
   - 4.2 Conjunctive and disjunctive normal form
   - 4.3 Digital circuit design

5. Hardware and computer architectures
   - 5.1 Computer types and their architecture
   - 5.2 Processors and memory
   - 5.3 Input and output
   - 5.4 Interfaces and drivers
   - 5.5 High-performance computing

6. Networks and the internet
   - 6.1 Wired and wireless networks and their topologies
   - 6.2 The TCP/IP and the ISO/OSI model
   - 6.3 Internet structure and services
   - 6.4 The internet of things

7. Software
   - 7.1 BIOS and operating systems
   - 7.2 Application software and information systems
   - 7.3 Apps
   - 7.4 Embedded systems
   - 7.5 Software development

8. Computer Science as a discipline
   - 8.1 The role and sub-disciplines of computer science
   - 8.2 Artificial intelligence, data science and computer science
   - 8.3 Ethical aspects of computer science
   - 8.4 The ACM Code of Ethics and Professional Conduct

Literature
Compulsory Reading
Further Reading ▪ Dale, N., & Lewis, J. (2020). Computer science illuminated (7th ed.). Jones & Bartlett Learning. ▪ Downey, A. B., & Mayfield, C. (2020). Think Java: How to think like a computer scientist. O'Reilly. ▪ Filho, W. F. (2018). Computer science distilled: Learn the art of solving computational problems. Code Energy LLC. ▪ Petzold, C. (2000). Code: The hidden language of computer hardware and software. Microsoft Press. ▪ Whitington, J. (2016). A machine made this book: Ten sketches of computer science. Coherent Press.

Study Format myStudies

Study Format	**Course Type**
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Managerial Economics

Module Code: DLBBWME_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Tolga Ülkü (Managerial Economics)

Contributing Courses to Module

- Managerial Economics (DLBBWME01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Duales myStudium Exam, 90 Minutes Study Format: Distance Learning Exam, 90 Minutes Study Format: myStudies Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Basics
- The Invisible Hand of the Market
- Consumer Decisions
- Business Decisions I: Full Competition
- Business Decisions II: Partial Competition
- Business Decisions III: Game Theory
- Advanced Microeconomics

Learning Outcomes

Managerial Economics

On successful completion, students will be able to

- understand basic economic interrelationships and apply them to different markets.
- explain the importance of supply, demand and market balance.
- assess the determinants of consumers' willingness to pay.
- discuss the determinants of production decisions and identify peak entrepreneurial strategies.
- assess the influence of different types of markets on production and price decisions.
- analyse strategic interactions between companies.
- critically question traditional economic models on the basis of findings from information and behavioural economics.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Economics	All Bachelor Programs in the Business & Management field

Managerial Economics

Course Code: DLBBWME01_E

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

Course Description

The source for (almost) all economic questions is the issue of scarcity. Building on this insight, this course considers three central elements. First, an analysis of the interplay between supply and demand on markets is made. Secondly, the course will consider the development of insights into the behaviour of consumers in markets. In a third part, the course will focus on entrepreneurial decisions that depend, among other things, on production technology available and competitive conditions in markets. These three core elements are taught from an application-oriented standpoint, in which references to (current) challenges of the management of companies are established. The course includes both the examination of economic theories and their application in business practice.

Course Outcomes

On successful completion, students will be able to

- understand basic economic interrelationships and apply them to different markets.
- explain the importance of supply, demand and market balance.
- assess the determinants of consumers' willingness to pay.
- discuss the determinants of production decisions and identify peak entrepreneurial strategies.
- assess the influence of different types of markets on production and price decisions.
- analyse strategic interactions between companies.
- critically question traditional economic models on the basis of findings from information and behavioural economics.

Contents

1. Basics
   - 1.1 Definitions & Main Topics of Economics
   - 1.2 Thinking like an Economist
2. The Invisible Hand of the Market
   - 2.1 Supply and Demand
   - 2.2 Market Balance
   - 2.3 Flexibility
   - 2.4 Applications

Literature
Compulsory Reading
Further Reading ▪ Acemoglu, D., Laibson, & D., List, J. A. (2018). Microeconomics, Global edition (2nd ed.). Pearson. ▪ Case, K. E., Osten, S. M., & Fair, R. C. (2019). Principles of economics, Global edition (13th ed.). Harlow. ▪ Keat, P. G., & Young, P. K. Y. (2013). Managerial economics, Global Edition (7th ed.). Pearson Education Limited. ▪ Leyton-Brown, K., & Shoham, Y. (2008). Essentials of game theory: A concise multidisciplinary introduction. Morgan & Claypool. ▪ Parkin, M. (2019). Economics (13th ed.). Harlow. ▪ Pindyck, R. S., & Rubinfeld, D. L. (2017). Microeconomics (9th ed.). Pearson.

Study Format Duales myStudium

Study Format	**Course Type**
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Project: Digital Business Models

Module Code: DLBWPPDBM_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Tamara Wehrstein (Project: Digital Business Models)

Contributing Courses to Module

- Project: Digital Business Models (DLBWPPDBM01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Written Assessment: Project Report	

Weight of Module

see curriculum

Module Contents

Digital business models are part of the value creation of today's digital transformation. In this module, the fundamentals of digital business models are researched and defined. On the basis of this foundation, a digital business model is independently developed and documented.

Learning Outcomes

Project: Digital Business Models

On successful completion, students will be able to

- identify fundamentals, solution approaches, challenges and forms of digital business models.
- describe digital business models using case studies.
- apply the acquired knowledge by means of (digital) market research methods and independently create and document digital business models.
- analyze digital business models and discuss challenges in practice.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programs in the Business field

Project: Digital Business Models

Course Code: DLBWPPDBM01_E

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

Course Description

Digital technologies have radically changed markets, the business world and society. The development of digital business models is an important task to be able to secure the future of a company. In this course, the essential basics of digital business models are researched and defined. Based on a (digital) market research method, a digital business model will be developed and challenges in practice will be discussed. The results are then documented by the students.

Course Outcomes

On successful completion, students will be able to

- identify fundamentals, solution approaches, challenges and forms of digital business models.
- describe digital business models using case studies.
- apply the acquired knowledge by means of (digital) market research methods and independently create and document digital business models.
- analyze digital business models and discuss challenges in practice.

Contents

- In order to develop a digital business model, the project report includes a literature review to define the essential principles and characteristics of a digital business model. Case studies are used to describe forms of digital business models. By means of (digital) market research methods, a practical question/problem is derived, which forms the starting point for the creation of a digital business model. Using suitable methods and tools for the creation of a digital business model, students independently create a business model. Subsequently, the challenges of the business model will be discussed. The application reference (e.g. web store) and/or industry (e.g. retail or health sector) isestablished in coordination with the course instructor.

Literature
Compulsory Reading
Further Reading ▪ Osterwalder, A., Pigneur, Y., & Clark, T. (2013). Business model generation: A handbook for visionaries, game changers, and challengers. Hoboken, NJ: Wiley. ▪ Rogers, D. L. (2016). The digital transformation playbook: Rethink your business for the digital age. New York, NY: Columbia Business School Publishing. ▪ Wirtz, B. W. (2019). Digital business models: Concepts, models, and the Alphabet case study. Springer International Publishing. ▪ Weill, P., & Woerner, S. (2018). What's your digital business model?: Six questions to help you build the next-generation enterprise. Harvard Business Review.

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

2. Semester

Accounting and Balancing

Module Code: DLBEPEAB

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Andreas Simon (Accounting and Balancing)

Contributing Courses to Module

- Accounting and Balancing (DLBEPEAB01)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Balance Sheet, Income Statement, Statement of Cash Flows
- IFRS Financial Statement of Small and Medium Sized Entities
- Recognition and Measurement Rules for IFRS Financial Reports
- Accounting Equation and Ratio Analysis
- Accrual Basis of Accounting and Revenue Recognition Rules
- Debt and Equity Financing of The Firm

Learning Outcomes

Accounting and Balancing

On successful completion, students will be able to

- explain how business activities are captured by financial statements and prepare financial statements from these business events.
- understand the objectives of financial reporting, analyze financial statements, compute key ratios.
- compare and contrast the objectives, characteristics and principles of IFRS reporting in an international context and compare them to national accounting principles (HGB).
- describe IFRS standards as they relate to the recognition, measurement, presentation and disclosure requirements in general purpose financial statements.
- apply accounting knowledge to solve business problems and make informed business decisions.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Finance & Tax Accounting	All Bachelor Programs in the Business & Management field

Accounting and Balancing

Course Code: DLBEPEAB01

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

Course Description

The knowledge obtained in this class will provide you with an important set of tools that are vital for anyone who will be expected to use financial statements in a meaningful way, and make key managerial decisions particularly with respect to the start-up of an enterprise. Procedural aspects of financial accounting will be discussed in order to enhance your understanding of the content of the financial statements. However, the emphasis of the class is on analyzing the financial condition of an operating company and to make recommendations to the management for improvements.

Course Outcomes

On successful completion, students will be able to

- explain how business activities are captured by financial statements and prepare financial statements from these business events.
- understand the objectives of financial reporting, analyze financial statements, compute key ratios.
- compare and contrast the objectives, characteristics and principles of IFRS reporting in an international context and compare them to national accounting principles (HGB).
- describe IFRS standards as they relate to the recognition, measurement, presentation and disclosure requirements in general purpose financial statements.
- apply accounting knowledge to solve business problems and make informed business decisions.

Contents

1. Financial Accounting as Information Source
    - 1.1 Business activities and the role of accounting
    - 1.2 Basic financial statements
    - 1.3 Key ratios
2. General Accounting Principles
    - 2.1 Conceptual Framework under IFRS
    - 2.2 IFRS for SMEs
    - 2.3 BilMog and HGB in Germany

3. Measuring Performance: Income Statement and Statement of Cash Flow
   - 3.1 Accrual accounting
   - 3.2 Income statement
   - 3.3 Statement of cash flow
   - 3.4 Revenue recognition

4. Reporting and Analysing Assets: Balance Sheet
   - 4.1 Definition of Assets
   - 4.2 Inventory
   - 4.3 Property, plant & equipment
   - 4.4 Intangible assets

5. Reporting and Analysing Liabilities and Equity: Balance Sheet
   - 5.1 Definition of Liabilities and Equity
   - 5.2 Accounting for debt financing
   - 5.3 Accounting for contributed and earned capital

6. Financial Statement Analysis
   - 6.1 Horizontal and vertical Ratio Analysis
   - 6.2 Analysing profitability, liquidity, and solvency
   - 6.3 Using Accounting Information in Valuation

7. Accounting Illustrated – case study
   - 7.1 Application of Accounting principles
   - 7.2 Analysis of Accounting Information
   - 7.3 Recommendations based on Accounting Information

Literature

Compulsory Reading

Further Reading

- Harrison, Walter T., et al. (2017): Financial Accounting. Global Edition, Pearson Education Limited.
- Stittle, John, and Robert T Wearing (2008): Financial Accounting. SAGE Publications.
- Van, Horne, J., et al. (2008): Fundamentals of Financial Management. Pearson Education, Limited.

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Review Book
	☑ Audio	☑ Online Tests
	☑ Slides	

Digital Future Commerce

Module Code: DLBDBDFC_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Dr. Konstantinos Kalligiannis (Digital Future Commerce)

Contributing Courses to Module

- Digital Future Commerce (DLBLOGC201_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Systems and processes in business and logistics
- Trends and developments
- Digital value networks
- Handling large amounts of data
- Global trade in a digital world

Learning Outcomes

Digital Future Commerce

On successful completion, students will be able to

- explain the possibilities for mapping business processes in IT systems and assess the possible uses of workflow management systems.
- explain current trends in digitization, outline historical developments starting with the industrial revolution, and explain the innovation potential of digitization.
- describe digital value networks and their special features using examples.
- describe the implications of E-Commerce for logistics and analyze the impact of digitalization on business processes.
- explain the challenges of Big Data and develop concepts as well as solution strategies for individual fields of application, especially from the area of eCommerce.
- describe global commerce in the digitalized world against the backdrop of rapid changes and adaptation processes and to classify the "human factor" in this context.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of E-Commerce	All Bachelor Programs in the Marketing & Communication field

Digital Future Commerce

Course Code: DLBLOGC201_E

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

Course Description

Participation in the course is designed to familiarize students with the future topics of digitization in logistics, industry and commerce. They will gain an overview of the status of technical developments and current implementation. Based on this, they will develop concepts and implementation strategies for selected operational contexts.

Course Outcomes

On successful completion, students will be able to

- explain the possibilities for mapping business processes in IT systems and assess the possible uses of workflow management systems.
- explain current trends in digitization, outline historical developments starting with the industrial revolution, and explain the innovation potential of digitization.
- describe digital value networks and their special features using examples.
- describe the implications of E-Commerce for logistics and analyze the impact of digitalization on business processes.
- explain the challenges of Big Data and develop concepts as well as solution strategies for individual fields of application, especially from the area of eCommerce.
- describe global commerce in the digitalized world against the backdrop of rapid changes and adaptation processes and to classify the "human factor" in this context.

Contents

1. Systems and Processes in Business and Logistics
   - 1.1 Logistical Systems Thinking and Economic Modeling
   - 1.2 Logistical Processes and Process Thinking in Retail
   - 1.3 Mapping of Business Processes in IT Systems
   - 1.4 Working Time Management: Demand-Oriented Personnel Logistics
2. Trends and Developments
   - 2.1 The History of Global Trade Logistics - From the Early Forms of Logistics Optimization to Digitalization
   - 2.2 The Tension between Liberalization and Protectionism
   - 2.3 Disruptive Innovations in Retail Logistics Yesterday and Today
   - 2.4 Humans in the Robotized World of Work - an Indispensable Disruptive Factor?

3. Digital Value Networks
   - 3.1 Self-Controlling Systems - Technologies and Organization - Swarm Intelligence
   - 3.2 3D Printing and Implications for Retail Logistics
   - 3.3 Logistics Processes in a Digital World
   - 3.4 E-Commerce and E-Logistics

4. Handling Large Amounts of Data
   - 4.1 Challenges and Strategies in Dealing with Big Data
   - 4.2 Technical Solutions in Various Fields of Application
   - 4.3 Cloud Services
   - 4.4 Security and Data Protection

5. Global Trade in a Digital World
   - 5.1 Adaptive Trade and Supply Chains
   - 5.2 Design and Redesign of Global Retail Chains
   - 5.3 Digitization of Global Production and Supply Networks
   - 5.4 Education for the Digitalized World

Literature

Compulsory Reading

Further Reading

- Ali, M., Khan, S. U., & Vasilakos, A. V. (2015). Security in cloud computing: Opportunities andchallenges. Information Sciences, 305(1), 357—383.
- Laudon, K. C., & Traver, C. G. (2019). E-commerce 2019: Business, technology, and society (15th ed.,Global ed.). Pearson.
- Saberi, S., Kouhizadeh, M., Sarkis, J., & Shen, L. (2019). Blockchain technology and its relationshipsto sustainable supply chain management. International Journal of Production Research, 57(7),2117—2135.
- Tian, Z., & Chen, L. (2020). The self-organization process of logistics industry system. In L. Menggand, Z. Runtong, X. Shang, M. Dresner, & G. Hua (Eds.), IEIS2019: Proceedings of the 6thinternational conference and industrial security engineering (pp. 459—472). Springer.
- Vazquez, E. E. (2019). Effect of e-retail product category on performance. In G. Granata, A. M.Tartaglione, & T. Tsiakis (Eds.), Predicting trends and building strategies for consumerengagement in retail environments (pp. 152—168). IGI Global Publishing.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods

Tutorial Support	Learning Material	Exam Preparation
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Fundamentals of Data Protection and IT Security for Non-Technical Programs

Module Code: DLBDBEFDPISNP

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Ralf Kneuper (Fundamentals of Data Protection and IT Security for Non-Technical Programs)

Contributing Courses to Module

- Fundamentals of Data Protection and IT Security for Non-Technical Programs (DLBDBEFDPISNP01)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Basic Concepts and Terminology of Data Protection
- Introduction to GDPR
- Basic Concepts and Terminology of IT Security
- Legal Requirements of IT Security
- Basic Concepts of Cryptology

Learning Outcomes

Fundamentals of Data Protection and IT Security for Non-Technical Programs

On successful completion, students will be able to

- explain and assess the need for data protection according to GDPR, and protection of IT systems.
- apply the essential requirements of data protection in a practical way and explain them by means of examples.
- name important legal requirements on IT security.
- explain and implement basic measures to protect individual computers and IT system on the internet.
- explain the core concepts of IT security management.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Computer Science & Software Development	All Bachelor Programs in the IT & Technology field

Fundamentals of Data Protection and IT Security for Non-Technical Programs

Course Code: DLBDBEFDPISNP01

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

Course Description

The course teaches the essential basics of data protection, based on GDPR, and IT security from the user's perspective. The aim is for participants to be familiar with the key requirements of these topics for companies and other organizations and to be able to initiate and manage their implementation. To this end, the first part of the course introduces terminology, principles, data subjects' rights and essential requirements of data protection and practical examples. The second part then covers the basic concepts of IT security, relevant legal requirements as well as protective measures and encryption concepts.

Course Outcomes

On successful completion, students will be able to

- explain and assess the need for data protection according to GDPR, and protection of IT systems.
- apply the essential requirements of data protection in a practical way and explain them by means of examples.
- name important legal requirements on IT security.
- explain and implement basic measures to protect individual computers and IT system on the internet.
- explain the core concepts of IT security management.

Contents

1. Foundations of Data Protection
   - 1.1 Data Protection as a Personal Right
   - 1.2 Terminology, Roles and Responsibilities
   - 1.3 Legal Foundations of Data Protection and Privacy
   - 1.4 Introduction to GDPR
   - 1.5 Introduction to Legislation on Data Protection and Privacy in the USA
2. Data Protection Requirements According to GDPR
   - 2.1 Data Protection Principles
   - 2.2 Transparency and Right of Access

Literature
Compulsory Reading
Further Reading ▪ Chopra, A. & Chaudhary, M. (2019). Implementing an Information Security Management System: Security Management Based on ISO 27001 Guidelines. Apress. https://link-springer-com.pxz.iubh.de:8443/book/10.1007/978-1-4842-5413-4 ▪ European Union (2016). Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). [available on the Internet] ▪ Singh, Simon (2000). The Code Book: Science of Secrecy from Ancient Egypt to Quantum Cryptography. Anchor. ▪ Voigt, P. & von dem Bussche, A. (2017). The EU General Data Protection Regulation (GDPR): A Practical Guide. Springer.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Intercultural and Ethical Decision-Making

Module Code: DLBCSIDM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Zeljko Sevic (Intercultural and Ethical Decision-Making)

Contributing Courses to Module

- Intercultural and Ethical Decision-Making (DLBCSIDM01)

Module Exam Type

Module Exam

Study Format: myStudies
Written Assessment: Case Study

Study Format: Distance Learning
Written Assessment: Case Study

Study Format: Duales myStudium
Written Assessment: Case Study

Split Exam

Weight of Module

see curriculum

Module Contents

- Basics of Intercultural Competence
- Cultural Concepts
- Culture and Ethics
- Implications of Current Ethical Problems in the Area of Interculturality, Ethics, and Diversity
- Intercultural Learning and Working
- Case Studies for Cultural and Ethical Conflicts

Learning Outcomes

Intercultural and Ethical Decision-Making

On successful completion, students will be able to

- explain the most important terms in the areas of interculturality, diversity, and ethics.
- distinguish different explanatory patterns of culture.
- understand culture at different levels.
- plan processes of intercultural learning and working.
- understand the interdependencies of culture and ethics.
- independently work on a case study on intercultural competence.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programs in the Business field

Intercultural and Ethical Decision-Making

Course Code: DLBCSIDM01

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

Course Description

In this course, students acquire the necessary knowledge to understand intercultural competencies and current developments in the fields of diversity and ethics. Students will understand how to systematically plan and implement learning processes for the development of competences important in these areas. First, important terms are clarified and differentiated from each other, and cultural aspects are explained from different perspectives. In addition, students learn that cultural issues are relevant at different levels, for example, within a state, company, or other group. In this context, students also recognize the connection between ethics and culture with different interdependencies. On the basis of this knowledge, students are then familiarized with the different possibilities and potentials of intercultural and ethical learning and working. Practical cases are used to illustrate the importance of the relationships learned for today's work context in many companies. The students then work on a case study in which the acquired knowledge is systematically applied.

Course Outcomes

On successful completion, students will be able to

- explain the most important terms in the areas of interculturality, diversity, and ethics.
- distinguish different explanatory patterns of culture.
- understand culture at different levels.
- plan processes of intercultural learning and working.
- understand the interdependencies of culture and ethics.
- independently work on a case study on intercultural competence.

Contents

1. Basics of Intercultural and Ethical Competence to Act
    - 1.1 Subject Areas, Terms, and Definitions
    - 1.2 Relevance of Intercultural and Ethical Action
    - 1.3 Intercultural Action - Diversity, Globalization, Ethics
2. Cultural Concepts
    - 2.1 Hofstedes Cultural Dimensions
    - 2.2 Culture Differentiation According to Hall
    - 2.3 Locus of Control Concept to Rotter

3. Culture and Ethics
   - 3.1 Ethics - Basic Terms and Concepts
   - 3.2 Interdependence of Culture and Ethics
   - 3.3 Ethical Concepts in Different Regions of the World

4. Current Topics in the Area of Interculturality, Ethics, and Diversity
   - 4.1 Digital Ethics
   - 4.2 Equality and Equal Opportunities
   - 4.3 Social Diversity

5. Intercultural Learning and Working
   - 5.1 Acculturation
   - 5.2 Learning and Working in Intercultural Groups
   - 5.3 Strategies for Dealing with Cultural Conflicts

6. Case Studies for Cultural and Ethical Conflicts
   - 6.1 Case Study: Interculturality
   - 6.2 Case Study: Diversity
   - 6.3 Case Study: Interculturality and Ethics

Literature

Compulsory Reading

Further Reading

- Al-Ali, E. & Masmoudi, M. (2023). Leadership and Workplace Culture in the Digital Era. Business Science Reference.
- Barmeyer, C., Bausch, M., & Mayrhofer, U. (2021). Constructive Intercultural Management.
- Edward Elgar Publishing.Ýeon Rossouw, & Leon van Vuuren. (2017). Business Ethics 6e: Vol. 6th edition. Oxford University Press Southern Africa.
- Nelly Berrones-Flemmig, Francoise Contreras, & Utz Dornberger. (2022). Business in the 21st Century : A Sustainable Approach: Vol. First edition. Emerald Publishing Limited.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Online Marketing

Module Code: DLBMSM1-01_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Anne-Kristin Langner (Online Marketing)

Contributing Courses to Module

- Online Marketing (DLBMSM01-01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Written Assessment: Written Assignment	

Weight of Module

see curriculum

Module Contents

- Online Marketing Basics
- Online Marketing Forms and Channels
- Online Marketing Strategy
- Online Media Planning
- The Online Presence
- Mobile Marketing and Mobile Commerce
- Online law
- Online Customer Loyalty and Service
- Web Analytics

Learning Outcomes

Online Marketing

On successful completion, students will be able to

- classify and strategically consider the basics relevant for Online Marketing (online communication process, electronic value creation, ...)
- know the different Online Marketing channels and to evaluate digital advertising measures strategically and operationally on this basis.
- conceive an Online Marketing strategy and make strategic and operational decisions.
- attract and retain customers through Online Marketing measures.
- measure and evaluate Online Marketing programs.
- fundamentally assess the marketing chances of a company in the World Wide Web.
- consider the importance of mobile in the Online Marketing Mix.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Online & Social Media Marketing	All Bachelor Programs in the Marketing & Communication field

Online Marketing

Course Code: DLBMSM01-01_E

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

Course Description

This course uses interdisciplinary fundamentals that enable students to deal with the topic of Online Marketing in an operative and strategic way. This includes business and economic principles as well as communicative multimedia basics or the consideration of the basic tonality of Online Marketing channels. This holistic view is essential for strategic planning: In addition to considering the positioning of companies in the World Wide Web, the course will also work out how Online Marketing appearances can be optimized. The measurement of success and evaluation of relevant key figures complete the comprehensive basis for the whole module.
The Online Marketing course teaches basic technical terms and concepts. These include the online communication process, added value of Online Marketing as well as electronic value creation and business models. Based on this knowledge, the course discusses aspects of product suitability, pricing policy, distribution policy, the various forms of marketing and distribution on the Internet. The course expands the understanding of the strategic and especially operational Online Marketing elements such as the planning and realization of advertising campaigns through various sales channels. In addition, the increasing development of mobile communication is taken into account and Mobile Marketing is considered as part of the Online Marketing Mix.
To understand the behavior of online customers the course deals with the specific effects of advertising in regards to Online Marketing. Based on the principles of customer acquisition, the course discusses customer retention and loyalty in Online Marketing, strategies and tactics for increasing customer numbers, online campaigns and the importance of online relationships.
Students learn the ropes of legal aspects and the principles of the General Data Protection Regulation (GDRP) relevant to Online Marketing to legally substantiate advertising campaigns and customer approaches. This course offers students the opportunity to get to know and implement the various aspects of Online Marketing Management in practice. They learn how to assess Online Media Planning through Web Analytics and targeted monitoring. For this, students learn the relevant Key Performance Indicators (KPIs) of Online Marketing, which are an essential condition for optimizing online strategies.

Course Outcomes

On successful completion, students will be able to

- classify and strategically consider the basics relevant for Online Marketing (online communication process, electronic value creation, ...)
- know the different Online Marketing channels and to evaluate digital advertising measures strategically and operationally on this basis.
- conceive an Online Marketing strategy and make strategic and operational decisions.
- attract and retain customers through Online Marketing measures.
- measure and evaluate Online Marketing programs.
- fundamentally assess the marketing chances of a company in the World Wide Web.
- consider the importance of mobile in the Online Marketing Mix.

Contents

1. Online Marketing Basics
    - 1.1 Development and Concept of Online Marketing
    - 1.2 The Online Communication Process
    - 1.3 Electronic Added Value
    - 1.4 The Role of Online Marketing in the Marketing Mix
    - 1.5 Electronic Business Concepts and Platforms
    - 1.6 Current Developments and Trends

2. Online Marketing Forms and Channels
    - 2.1 Overview of Online Marketing Forms
    - 2.2 Affiliate and Search Engine Marketing
    - 2.3 Display Advertising and Email Marketing
    - 2.4 Social Media and Influencer Marketing
    - 2.5 Content Marketing and Storytelling
    - 2.6 Viral Marketing and Word-of-Mouth Marketing
    - 2.7 Native Advertising and Mobile Marketing
    - 2.8 Real Time Bidding and Programmatic Advertising
    - 2.9 Online PR

3. Online Marketing Strategy
    - 3.1 Set Goals and Creating a Base
    - 3.2 The Customer Journey
    - 3.3 The Right Channel Mix
    - 3.4 Defining and Analyzing KPIs

4. Online Media Planning

Literature
Compulsory Reading
Further Reading ▪ Chaffey, D., & Ellis-Chadwick, F. (2022). Digital marketing (8th ed.). Pearson. ▪ Kingsnorth, S. (2022). The Digital Marketing Handbook. KoganPage. ▪ Martínez-López, F. J., & López López, D. (Eds.). (2021). Advances in Digital Marketing and eCommerce. Springer Nature.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Written Assignment

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Project: Design Thinking

Module Code: DLBINGDT_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Inga Schlömer (Project: Design Thinking)

Contributing Courses to Module

- Project: Design Thinking (DLBINGDT01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Written Assessment: Project Report Study Format: myStudies Written Assessment: Project Report	

Weight of Module

see curriculum

Module Contents

- Basic principles of Design Thinking
- The Design Thinking microvprocess
- The Design Thinking macro process
- Methods for early phases of the process
- Methods for idea generation
- Methods for prototyping and testing
- Space concepts for Design Thinking
- Examples and case studies

Learning Outcomes

Project: Design Thinking

On successful completion, students will be able to

- know the mindset of Design Thinking.
- know the individual phases of the incremental micro cycle and carry them out on an example project.
- know the individual stages of prototyping and apply them in an example project.
- know and use methods and tools for the individual steps of the micro cycle.
- know different space concepts for Design Thinking work environments.
- know examples for the application of Design Thinking by means of business case studies.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Design	All Bachelor Programs in the Design, Architecture & Construction field

Project: Design Thinking

Course Code: DLBINGDT01_E

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

Course Description

In this course students will receive a practical introduction to Design Thinking. In addition to teaching the individual basic principles, the procedures in Design Thinking will also be examined in detail. In order not only to understand Design Thinking but also to experience it, selected methods for the individual process steps will be presented and practiced on an example project.

Course Outcomes

On successful completion, students will be able to

- know the mindset of Design Thinking.
- know the individual phases of the incremental micro cycle and carry them out on an example project.
- know the individual stages of prototyping and apply them in an example project.
- know and use methods and tools for the individual steps of the micro cycle.
- know different space concepts for Design Thinking work environments.
- know examples for the application of Design Thinking by means of business case studies.

Contents

1. Basic Principles of Design Thinking
2. The Design Thinking Micro Process
3. The Design Thinking Macro Process
4. Methods for Early Phases of the Process
5. Methods for Idea Generation
6. Methods for Prototyping and Testing
7. Examples and Case Studies

Literature
Compulsory Reading
Further Reading ▪ Brown, T. (2008). Design Thinking. Harvard Business Review, June, 84–95. ▪ Brown, T., & Kātz, B. (2019). Change by design: How design thinking transforms organizations and inspires innovation (Revised and updated edition). Harper Business. ▪ IDEO. (2015). The field guide to human-centered design: Design kit (1st ed.). IDEO. ▪ Lewrick, M., Patrick, L., & Leifer, L. (2018). The design thinking playbook: Mindful digital transformation of teams, products, services, businesses and ecosystems. John Wiley & Sons. ▪ Lewrick, M., Patrick, L., & Leifer, L. (2020). Design Thinking Toolbook. John Wiley & Sons.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

3. Semester

Statistics: Probability and Descriptive Statistics

Module Code: DLBDSSPDS-01

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Veronica Mas (Statistics: Probability and Descriptive Statistics)

Contributing Courses to Module

- Statistics: Probability and Descriptive Statistics (DLBDSSPDS01-01)

Module Exam Type

Module Exam	Split Exam
Study Format: myStudies Exam, 90 Minutes Study Format: Distance Learning Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Probability
- Random variables
- Joint distributions
- Expectation and variance
- Inequalities and limit theorems

Learning Outcomes

Statistics: Probability and Descriptive Statistics

On successful completion, students will be able to

- define probability, random variable, and probability distribution.
- understand the concept of Bayesian statistics.
- grasp the definition of joint and marginal distributions.
- calculate expectation values and higher moments.
- comprehend important inequality equations and limit theorems.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Methods	All Bachelor Programs in the Business & Management field

Statistics: Probability and Descriptive Statistics

Course Code: DLBDSSPDS01-01

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

Course Description

Statistical description and analysis are the foundations for data-driven analysis and prediction methods. This course introduces the fundamentals, beginning with a formal definition of probabilities and introduction to the concepts underlying Bayesian statistics.Random variables and probability density distributions are then discussed, as well as the concept of joint and marginal distributions. The importance of various discrete and continuous distributions and their applications is stressed.Characterizing distributions is an important aspect of describing the behavior of probability distributions. Students are familiarized with expectation values, variance, and covariance. The concepts of algebraic and central moments and moment-generating functions complement the characterization of probability distributions.Finally, this course focuses on important inequalities and limit theorems such as the law of large numbers or the central limit theorem.

Course Outcomes

On successful completion, students will be able to

- define probability, random variable, and probability distribution.
- understand the concept of Bayesian statistics.
- grasp the definition of joint and marginal distributions.
- calculate expectation values and higher moments.
- comprehend important inequality equations and limit theorems.

Contents

1. Probability
   - 1.1 Definitions
   - 1.2 Independent events
   - 1.3 Conditional probability
   - 1.4 Bayesian statistics
2. Random Variables
   - 2.1 Random Variables
   - 2.2 Distribution functions and probability mass functions
   - 2.3 Important discrete probability distributions
   - 2.4 Important continous probability distributions

3. Joint Distributions
   - 3.1 Joint distributions
   - 3.2 Marginal distributions
   - 3.3 Independent random variables
   - 3.4 Conditional distributions

4. Expectation and Variance
   - 4.1 Expectation of a random variable, conditional expectations
   - 4.2 Variance and covariance
   - 4.3 Expectations and variances of important probability distributions
   - 4.4 Algebraic and central moments
   - 4.5 Moment-generating functions

5. Inequalities and Limit Theorems
   - 5.1 Probability inequalities
   - 5.2 Inequalities for expectations
   - 5.3 The law of large numbers
   - 5.4 Central limit theorem

Literature

Compulsory Reading

Further Reading

- Downey, A.B. (2014). Think stats (2nd ed.). O'Reilly.
- Rohatgi, V. K., & Saleh, A. K. E. (2015). An introduction to probability and statistics. John Wiley & Sons, Incorporated.
- Wagaman, A.S & Dobrow, R.P. (2021). Probability: With applications and R. Wiley.
- Triola , M.F. (2013). Elementary statistics. Pearson Education.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Review Book
☑ Recorded Live Sessions	☑ Audio	☑ Online Tests
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Review Book
	☑ Audio	☑ Online Tests
☑ Recorded Live Sessions	☑ Slides	

Collaborative Work

Module Code: DLBCSCW

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Karin Halbritter (Collaborative Work)

Contributing Courses to Module

- Collaborative Work (DLBCSCW01)

Module Exam Type

Module Exam	Split Exam
Study Format: myStudies Oral Assignment Study Format: Duales myStudium Oral Assignment Study Format: Distance Learning Oral Assignment	

Weight of Module

see curriculum

Module Contents

- Self-Directed and Collaborative Learning
- Networking and Cooperation
- Performance in (Virtual) Teams
- Communication, Arguments, and Being Convincing
- Potentials for Conflict and Managing Conflicts
- Self-Management and Personal Skills

Learning Outcomes

Collaborative Work

On successful completion, students will be able to

- design their own learning processes both self-directed and collaborative with analog and digital media.
- initiate face-to-face and virtual cooperation and select suitable methods for shaping collaboration even in an intercultural context and across disciplinary boundaries.
- assess different forms of communication in relation to the goals and requirements of different situations and to reflect on their own communication and argumentation behavior in order to be able to shape conducive collaboration also in an interdisciplinary context.
- recognize social diversity including cultural and professional differences as a value, and to name and apply tools to deal with them constructively.
- explain conflict potentials and the role of emotions in conflicts and to describe the use of systemic methods in the target- and solution-oriented handling of conflicts.
- analyze one's own resources, present methods of self-leadership and self-motivation, and derive appropriate strategies.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programs in the Business field

Collaborative Work

Course Code: DLBCSCW01

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

Course Description

The course supports the students in building up and expanding important interdisciplinary competences for our networked world, and in doing so, students can take advantage of the opportunities for constructive cooperation with others. It presents essential forms and design possibilities of collaborative learning and working, imparts basic knowledge and tools for self-managed, flexible, and creative thinking, learning and acting and familiarizes students with the topics of empathy and emotional intelligence. Students are also encouraged to use the course contents. In this way, they promote their autonomous competence to act and their competence in the interactive application of tools and in interacting in heterogeneous groups.

Course Outcomes

On successful completion, students will be able to

- design their own learning processes both self-directed and collaborative with analog and digital media.
- initiate face-to-face and virtual cooperation and select suitable methods for shaping collaboration even in an intercultural context and across disciplinary boundaries.
- assess different forms of communication in relation to the goals and requirements of different situations and to reflect on their own communication and argumentation behavior in order to be able to shape conducive collaboration also in an interdisciplinary context.
- recognize social diversity including cultural and professional differences as a value, and to name and apply tools to deal with them constructively.
- explain conflict potentials and the role of emotions in conflicts and to describe the use of systemic methods in the target- and solution-oriented handling of conflicts.
- analyze one's own resources, present methods of self-leadership and self-motivation, and derive appropriate strategies.

Contents

1. Learning for a Networked World, in a Networked World
    - 1.1 Requirements and Opportunities in the “VUCA” World
    - 1.2 Learning, Knowing and Not-Knowing
    - 1.3 The 4C Model: Collective, Collaborative, Continuous, and Connected
    - 1.4 Monitoring Learning Behaviour

2. Networking & Cooperation
   - 2.1 Cooperation Partners
   - 2.2 Sustainable Relationships: Digital Interaction and Trust Building
   - 2.3 Organizing Collaboration
   - 2.4 Social Learning

3. Performance in (Online) Teams
   - 3.1 Goals, Roles, Organization and Performance Measurement
   - 3.2 Team Building and Team Flow
   - 3.3 Agile Project Management with Scrum
   - 3.4 Other Agile Methods

4. Communicating and Convincing
   - 4.1 Communication as Social Interaction
   - 4.2 Language, Images, Metaphors, and Stories
   - 4.3 Attitude: Open, Empathetic, and Appreciative Communication
   - 4.4 Active Listening
   - 4.5 Analyze Your Conversational and Argumentative Skills

5. Recognizing Conflict Potential — Managing Conflicts — Negotiating Effectively
   - 5.1 Respecting Diversity and Seizing Opportunities
   - 5.2 Empathy
   - 5.3 Systemic Solution Process Work
   - 5.4 Constructive Negotiation

6. Achieving Your Goals
   - 6.1 Effective Goal Setting
   - 6.2 The Agile Use of Time
   - 6.3 (Self-)Coaching Methods
   - 6.4 Self-Management and Motivation Strategies

7. Mobilizing Resources
   - 7.1 Recognizing Resources
   - 7.2 Reflection and Innovation
   - 7.3 Transfer Strength and Willpower

Literature
Compulsory Reading
Further Reading ▪ Baber, A., Waymon, L., Alphonso, A., & Wylde, J. (2015). Strategic connections: The new face of networking in a collaborative world. AMACOM. ▪ Kaats, E., & Opheij, W. (2014). Creating conditions for promising collaboration: Alliances, networks, chains, strategic partnerships. Springer. ▪ Martin, S. J., Goldstein, N. J., & Cialdini, R. B. (2014). The small BIG: Small changes that spark BIG influence. Profile Books. ▪ Oettingen, G. (2014). Rethinking positive thinking: Inside the new science of motivation. Current.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Oral Assignment

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Oral Assignment

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Oral Assignment

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Management Accounting

Module Code: DLBMAE

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Zeljko Sevic (Management Accounting)

Contributing Courses to Module

- Management Accounting (DLBMAE01)

Module Exam Type

Module Exam	Split Exam
Study Format: myStudies Exam or Written Assessment: Written Assignment, 90 Minutes Study Format: Distance Learning Exam or Written Assessment: Written Assignment, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Management accounting and control function
- Differences between management accounting, and financial accounting
- Cost terms, cost categories, and cost behavior
- Cost allocation
- General and specific cost allocation methods
- Break-even analysis
- Planning and budgeting

Learning Outcomes

Management Accounting

On successful completion, students will be able to

- differentiate the management accounting and control function from the financial accounting and the financial management function.
- understand the cost structure and discuss the cost aspects of business operation.
- analyze and apply the tools for viewing and differentiating costs and utilize them to ameliorate business decision-making.
- discuss how the budgeting process and variance analysis works to implement the management control function.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Finance & Tax Accounting	All Bachelor Programs in the Business field

Management Accounting

Course Code: DLBMAE01

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

Course Description

Management accounting is an important function to operate an organization. Managers need to understand this function in order to be able to run an organization efficiently. In most organizations, decisions, actions and human behavior are directly linked to the feature, use and focus of management accounting information. This course is about understanding the preparation and use of information provided by management accounting. Cost accounting as a central part of the management accounting informs the management about the profitability of its core business. The cost and performance measurement serves the internal decision, control and budgeting process.

Course Outcomes

On successful completion, students will be able to

- differentiate the management accounting and control function from the financial accounting and the financial management function.
- understand the cost structure and discuss the cost aspects of business operation.
- analyze and apply the tools for viewing and differentiating costs and utilize them to ameliorate business decision-making.
- discuss how the budgeting process and variance analysis works to implement the management control function.

Contents

1. Introduction to Management Accounting
   - 1.1 Financial vs. Management/Cost Accounting
   - 1.2 Definition of Cost
   - 1.3 Considering the Contemporary Business World Context
   - 1.4 Cost Behavior: Fixed and Variable Costs
2. Cost-Volume-Profit Analysis
   - 2.1 Break-Even Analysis
   - 2.2 Cost Structure and Operating Leverage
   - 2.3 Cost Structure and Variabilization
3. Simplistic Methods of Cost Allocation

Literature
Compulsory Reading
Further Reading ▪ Atkinson, A. A., Kaplan, R., Matsumura, E. M., & Young, S. M. (2012). Management accounting: Information for decision-making and strategy execution (6th ed.). Pearson. ▪ Drury, C. (2019). Management accounting for business (7th ed.). Cengage.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		☑ Guideline

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		☑ Guideline

Introduction to Low-Code Development

Module Code: DLBDBEILCD

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

N.N. (Introduction to Low-Code Development)

Contributing Courses to Module

- Introduction to Low-Code Development (DLBDBEILCD01)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Written Assessment: Case Study	

Weight of Module

see curriculum

Module Contents

- Definition of Low-Code, No-Code and Citizen Development
- Areas of Application and Advantages and Disadvantages of Low-Code Development
- Low-Code and No-Code Platforms and Vendor Landscape
- Frameworks and Patterns in Low-Code Programming
- Data Models in Low-Code Development
- User Interface Design in Low-Code Development

Learning Outcomes

Introduction to Low-Code Development

On successful completion, students will be able to

- reflect what is considered low-code, no-code and citizen development.
- approach low-code projects methodically and to evaluate the importance of business process modeling in this context.
- classify which environments and platforms exist for low-code development.
- evaluate which data models are relevant in low-code development.
- discuss which patterns are applied in low-code programming and for what purpose.
- configure applications from software modules and made them available on different end devices.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Computer Science & Software Development	All Bachelor Programs in the IT & Technology field

Introduction to Low-Code Development

Course Code: DLBDBEILCD01

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

Course Description

Low-code programming offers considerable potential for the digitization and optimization of business processes. Thus, in the context of low-code programming, in contrast to classic software development, it is possible to create software applications without advanced programming knowledge by means of a graphical user interface. Low-code is a type of app development that uses visual, model-based development methods to reduce time to value. In the process, agile development methods enable cross-team collaboration and the rapid creation and deployment of cloud-based applications. In addition, low-code platforms reduce the burden on non-expert programmers by eliminating the need to write code, while supporting professional developers by abstracting tedious installation and infrastructure tasks during application development. Against this background, this course will explain the historical background and the conceptual foundations of low-code, no-code, and citizen development. Furthermore, the significance as well as advantages and disadvantages of the concepts will be clarified. Important platforms and the technological framework conditions are also presented. Finally, the typical phases in the low-code and no-code application lifecycle as well as important areas of application are also discussed in detail.

Course Outcomes

On successful completion, students will be able to

- reflect what is considered low-code, no-code and citizen development.
- approach low-code projects methodically and to evaluate the importance of business process modeling in this context.
- classify which environments and platforms exist for low-code development.
- evaluate which data models are relevant in low-code development.
- discuss which patterns are applied in low-code programming and for what purpose.
- configure applications from software modules and made them available on different end devices.

Contents

1. History and Conceptual Basics
    - 1.1 Origin and Emergence of Low-Code and No-Code Concepts
    - 1.2 Definition of the Low-Code and No-Code Concept
    - 1.3 The Major Characteristics of Today's Low-Code and No-Code Tools

1.4 Building Blocks and Precursors of Low-Code and No-Code Concepts
1.5 The Low-Code and No-Code Application Lifecycle

2. Unleashing Low-Code, No-Code and Citizen Developers
2.1 Reimagining Application Development in the Age of Digital Transformation
2.2 The Understanding and Relevance of the Citizen Developer
2.3 The Relevance of Business Process Modelling
2.4 Opportunities and Benefits of Low-Code- and No-Code Development
2.5 Limitations and Risks of Low-Code and No-Code Application

3. Platforms and Vendor Landscape
3.1 A Burgeoning Industry
3.2 Major Subcategories within the Vendor Landscape
3.3 Contextualizing Low-Code and No-Code Platforms
3.4 Important Vendors at a Glance
3.5 Evaluating Existing Tools and Concepts

4. Strategies, Frameworks and Technological Environment
4.1 Tech Strategies
4.2 Integration of Agile Development Methods and Cross-Team Collaboration
4.3 Low-Code and No-Code Frameworks
4.4 Data Models in Low-Code and No-Code Development
4.5 User Interface Design in Low-Code and No-Code Development

5. Phases in the Low-Code and No-Code Application Lifecycle
5.1 Planning and Gathering Requirements
5.2 Design, Development, and Testing
5.3 Deploy and Launch
5.4 Support, Maintenance, and Documentation
5.5 Retirement

6. Application, Cases Studies, and Future Outlook
6.1 Evaluating and Learning New Low-Code and No-Code Tools
6.2 Configurating and Deploying Low-Code and No-Code Applications
6.3 Case Study: Microsoft Power Platform
6.4 Case Study: Mendix
6.5 The Next Frontier in Business Applications

Literature
Compulsory Reading
Further Reading ▪ Di Ruscio, D., Kolovos, D., Lara, J. de, Pierantonio, A., Tisi, M. & Wimmer, M. (2022). Low-Code Development and Model-Driven Engineering: Two Sides of the Same Coin? Software and Systems Modeling, 21(2), 437–446. ▪ Leung, T. (2021). Beginning Power Apps: The Non-Developer's Guide to Building Business Applications. Springer eBook Collection. Apress. ▪ Sahay, A., Indamutsa, A., Di Ruscio, D. & Pierantonio, A. (2020). Supporting the Understanding and Comparison of Low-Code Development Platforms. In 2020 46th Euromicro Conference on Software Engineering and Advanced Applications (SEAA) (S. 171–178). IEEE. ▪ Sanchis, R., García-Perales, Ó., Fraile, F. & Poler, R. (2020). Low-Code as Enabler of Digital Transformation in Manufacturing Industry. Applied Sciences, 10(1), 12.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Introduction to Process Management

Module Code: DLBWIEPM_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Uma Santhosh Tumpala (Introduction to Process Management)

Contributing Courses to Module

- Introduction to Process Management (DLBWIEPM01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Exam or Written Assessment: Written Assignment, 90 Minutes Study Format: myStudies Exam or Written Assessment: Written Assignment, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Terms and motivation for process management
- Fundamentals of enterprise modeling
- Modelling of business processes
- Process evaluation
- Utilization of reference processes
- Process changes

Learning Outcomes

Introduction to Process Management

On successful completion, students will be able to

- identify the motivation and challenges in process management and describe the phases of process design.
- document business processes in a structured way.
- analyze and evaluate processes with suitable methods.
- explain the use of reference processes and name at least one typical reference process.
- identify challenges of process changes and plan risk-oriented process changes by appropriate means.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Computer Science & Software Development	All Bachelor Programs in the IT & Technology fields

Introduction to Process Management

Course Code: DLBWIEPM01_E

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

Course Description

Business processes form the basis of many medium and large organizations. They contain binding rules and agreements that document the interaction of all organizational units and persons involved. This course introduces basics of enterprise modeling and specific forms of documentation for process modeling. An additional focus is given on techniques and methods supporting the evaluation of processes. Since reference models play an important role in practice, this course also presents typical reference processes, going in more detail by introducing the reference framework ITIL. Since organizational change is a critical success factor in process management, this course also addresses challenges in the rollout of processes and issues in the context of change management.

Course Outcomes

On successful completion, students will be able to

- identify the motivation and challenges in process management and describe the phases of process design.
- document business processes in a structured way.
- analyze and evaluate processes with suitable methods.
- explain the use of reference processes and name at least one typical reference process.
- identify challenges of process changes and plan risk-oriented process changes by appropriate means.

Contents

1. Terms and Motivation for Process Management
    - 1.1 Terms: Process, Process Management, Actual Process, Target Process
    - 1.2 Motivation for Process Management
    - 1.3 Risks and Challenges of Changing Processes in Organizations
    - 1.4 Phases of the Process Design
2. Fundamentals of Enterprise Modeling
    - 2.1 Elements of Enterprise Modelling
    - 2.2 Forms of Organization
    - 2.3 Elements in Business Processes

3. Modelling of Business Processes
   - 3.1 Business Process and Notation (BPMN)
   - 3.2 Extended Event-Driven Process Chains (EEPK)

4. Process Evaluation
   - 4.1 Methods of Process Evaluation
   - 4.2 Use of KPIs for Process Evaluation
   - 4.3 IT-Supported Process Evaluation

5. Use of Reference Processes
   - 5.1 Motivation and Typical Examples of Reference Processes
   - 5.2 Example: ITIL as Process Framework for the Operation of IT

6. Process Changes
   - 6.1 Analysis of the Effects of Process Changes
   - 6.2 Rollout of Process Changes
   - 6.3 Change Management

Literature

Compulsory Reading

Further Reading

- Dumas, M./La Rosa M./Mendling, J,/Reijers, H. A. (2018): Fundamentals of Business Process Management. 2nd edition, Springer Berlin/Heidelberg.
- Mendling, J. (2008): Metrics for Process Models: Empirical Foundations of Verification, Error Prediction, and Guidelines for Correctness. Springer, Berlin/ Heidelberg.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
	☑ Slides	

Project: Low-Code Development

Module Code: DLBDBEPLCD

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

N.N. (Project: Low-Code Development)

Contributing Courses to Module

- Project: Low-Code Development (DLBDBEPLCD01)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Oral Project Report	

Weight of Module

see curriculum

Module Contents

In the age of digitization, low-code represents an opportunity to develop software at a manageable cost and time. The use of low-code platforms such as the Microsoft Power Platform provides support for the digital transformation under appropriate project conditions. Objective of this project is to teach students the process of developing a low-code app through a low-code project that they plan and execute themselves.

Learning Outcomes

Project: Low-Code Development

On successful completion, students will be able to

- identify a relevant problem for the development of a low-code app.
- carry out a modelling of relevant business processes.
- plan and implement a low-code project based on the business process.
- successfully develop and deploy a low-code app.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Computer Science & Software Development	All Bachelor Programs in the IT & Technology field

Project: Low-Code Development

Course Code: DLBDBEPLCD01

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

Course Description

Digital transformation is a challenging process that places high demands on many companies. In practice, there is often a lack of well thought-out concepts for exploiting the potential of digitization. A lack of IT expertise or IT infrastructure are among the reasons. Low-code is a method for companies to experience support for digital transformation. Simplification, acceleration, and agility are just some of the benefits that low-code offers for digitization in companies. Against this background, students will identify a relevant problem for the development of a low-code app based on a practical project. Starting from the modeling of relevant business processes, a low-code app is to be systematically planned, developed, implemented, and deployed within the Power Platform of Microsoft or Mendix.

Course Outcomes

On successful completion, students will be able to

- identify a relevant problem for the development of a low-code app.
- carry out a modelling of relevant business processes.
- plan and implement a low-code project based on the business process.
- successfully develop and deploy a low-code app.

Contents

- Students learn how to use a low-code environment on a practical example project. The result of the low-code programming is a low-code application for a self-selected business process. After identifying a relevant problem, students will first model the affected business process. In practice, these are often processes that can be digitized and automated, where data was previously exchanged verbally, by form, notepad, or e-mail. While users today write information in an e-mail that other users then transfer to or check using standard software, low-code applications offer a decisive advantage: data can be recorded in a structured manner and the checks can be automated by accessing other programs. Low-code is therefore particularly interesting for administrative business processes and secondary processes. Once business process modeling is complete, students develop a comprehensive project plan and implementation strategy. Next step is to develop the low-code application and demonstrate how to deploy it via the Microsoft's Power Platform or Mendix. In addition, they develop the low-code application considering the previously defined problem and the selected business process. They show how the low-code app can be deployed and used in practical application.

Literature
Compulsory Reading
Further Reading ▪ Gurcan, F. & Taentzer, G. (2021). Using Microsoft PowerApps, Mendix and OutSystems in Two Development Scenarios: An Experience Report. In 2021 ACM/IEEE International Conference on Model Driven Engineering Languages and Systems Companion (MODELS-C) (S. 67–72). IEEE. ▪ Leung, T. (2021). Beginning Power Apps: The Non-Developer's Guide to Building Business Applications. Springer eBook Collection. Apress. ▪ Prakash Pradhan, S. (2022). Power Platform and Dynamics 365 CE for Absolute Beginners. Apress.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

4. Semester

IT Law

Module Code: DLBCSIITL

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Dr. Mohammad Shackow (IT Law)

Contributing Courses to Module

- IT Law (DLBCSIITL01)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Written Assessment: Case Study Study Format: myStudies Written Assessment: Case Study	

Weight of Module

see curriculum

Module Contents

- Basic Concepts of Legal Systems
- Internet and Domain Law
- Contracts
- Intellectual Property
- Data Protection / Privacy

Learning Outcomes

IT Law

On successful completion, students will be able to

- describe basic concepts of IT law.
- provide examples of different approaches to IT law in different countries.
- identify legal questions as they arise in IT.
- apply the core ideas of data protection and privacy in their work.
- distinguish the different types of contracts and intellectual property as they relate to IT.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Computer Science & Software Developement	All Bachelor Programs in the IT & Technology field

IT Law

Course Code: DLBCSIITL01

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

Course Description

The application of IT is embedded in a legal framework which computer scientists need to know and adhere to in their work. This applies to the way their own work is performed which, for example, may be governed by contracts with suppliers and/or customers. Computer scientists create and use intellectual property, and this leads to questions of copyright, software patents, etc. Beyond this, IT strongly influences the social environment and therefore needs to abide by regulations such as data protection. The goal of this module is to provide students with a basic understanding of these legal aspects so they can take them into account, apply them in simple cases, and recognize when more specialised legal knowledge is required. Since IT is a topic that connects different countries and legal frameworks, the course looks at some of the common legal questions as they are handled in the European Union, the USA, and India.

Course Outcomes

On successful completion, students will be able to

- describe basic concepts of IT law.
- provide examples of different approaches to IT law in different countries.
- identify legal questions as they arise in IT.
- apply the core ideas of data protection and privacy in their work.
- distinguish the different types of contracts and intellectual property as they relate to IT.

Contents

1. Basic Concepts of Legal Systems
   - 1.1 The Role of Law in IT
   - 1.2 Basic Concepts of the Legal System in the European Union
   - 1.3 Basic Concepts of the Legal System in the USA
   - 1.4 Basic Concepts of the Legal System in India
2. Internet and Domain Law
   - 2.1 Web Sites and the Law
   - 2.2 Net Neutrality
   - 2.3 Domain Registration
   - 2.4 Internet Crime

3. Contracts
   - 3.1 Types of IT Contracts
   - 3.2 Electronic Contracts and Electronic Signatures
   - 3.3 Licences
   - 3.4 Free and Open Source Software
   - 3.5 Buying and Selling Off-the-Shelf Software
   - 3.6 Software Development Contracts

4. Intellectual Property
   - 4.1 Brands, Trade Marks and Domain Names
   - 4.2 Copyright
   - 4.3 Software Patents
   - 4.4 Digital and Data Ownership

5. Data Protection/Privacy
   - 5.1 Basic Concepts of Data Protection
   - 5.2 Data Protection in the European Union: the GDPR
   - 5.3 Data Protection in the USA
   - 5.4 Data Protection in India
   - 5.5 Trans-Border Data Flows

Literature

Compulsory Reading

Further Reading

- Hoeren, T., & Pinelli, S. (2018). Agile programming – Introduction and current legal challenges. Computer Law & Security Review, 34(5), pp. 1131-1138. Retrieved from www.uni-muenster.de/Jura.itm/hoeren/itm/wp-content/uploads/Hr.-Hoeren-29.10.pdf
- Lloyd, I. (2018). Information technology law (8th ed.). Oxford: Oxford University Press.
- Murray, A. (2019). Information technology law: The law and society (4th ed.). Oxford: Oxford University Press.
- Soma, J. T. (2014). Privacy law in a nutshell. St. Paul, MN: West Academic.
- Wikia.org. (n.d.). The IT law wiki [web encyclopedia]. Retrieved from https://itlaw.wikia.org/wiki/The_IT_Law_Wiki#

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Seminar: Current Topics in Digitalization

Module Code: DLBDBATD_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Johann Smalla (Seminar in Current Topics in Digitalization)

Contributing Courses to Module

- Seminar in Current Topics in Digitalization (DLBDBATD01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Written Assessment: Research Essay	

Weight of Module

see curriculum

Module Contents

The seminar deals with current topics of digitalization and digital transformation. Students can discuss the effects on the economy and society, or gather information on current technological developments.

Learning Outcomes

Seminar in Current Topics in Digitalization

On successful completion, students will be able to

- independently familiarize themselves with a given topic from the field of digitalization or digital transformation.
- write down important characteristics, connections and findings in form of a paper.
- remember the basics of scientific work and to implement them in the seminar paper.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field(s) of Computer Science & Software Development.	All Bachelor Programs in the IT & Technology field(s).

Seminar in Current Topics in Digitalization

Course Code: DLBDBATD01_E

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

Course Description

In the seminar "Current Topics in Digitalization" students write a seminar paper on a specific topic and present their results. In this way, the students demonstrate that they are able to independently familiarize themselves with a topic and to document and present the knowledge gained in a structured manner.

Course Outcomes

On successful completion, students will be able to

- independently familiarize themselves with a given topic from the field of digitalization or digital transformation.
- write down important characteristics, connections and findings in form of a paper.
- remember the basics of scientific work and to implement them in the seminar paper.

Contents

- Digitalization is a wide-ranging subject area that can relate to very different aspects, depending on the specific terminology used. The seminar will meet this diversity by picking up current trends within the framework of formulated topic areas. Each participant must prepare a seminar paper for this purpose. Possible topics include new technologies that drive digitalization (e.g. deep learning), effects on the working world (e.g. crowdsourcing or new qualification requirements in the field of data science) or new digital business models (e.g. Fintechs).

Literature
Compulsory Reading
Further Reading ▪ Pascual, D/ Daponte, P/ Kumar, U (2019): Handbook of Industry 4.0 and SMART Systems. CRC Press. Boca Raton. ▪ Porter, M. E.; Heppelmann, J. E. (2014): How Smart, Connected Products Are Transforming Competition. In: Harvard Business Review 92 (11), S. 64-88. ▪ Anand, B. (2016): The Content Trap: A Strategist's Guide to Digital Change. Random House. New York. ▪ Ross, PK/ Ressia, S/ Sander, JS (2017): Work in the 21st Century: How Do I Log On?. Emerald Publishing. Bingley. ▪ Osterwalder, A/Pigneur, Y. (2010): Business Model Generation: A Handbook for Visionaries, Game Changers, John Wiley & Sons Inc. New Jersey. ▪ Dark Horse Innovation (Hrsg.) (2017): Digital Innovation Playbook. The essential exercise book for founders, doers and managers. Murmann. Hamburg.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Seminar

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Research Essay

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Corporate Finance and Investment

Module Code: DLBCFIE

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Muhammad Ashfaq (Corporate Finance and Investment)

Contributing Courses to Module

- Corporate Finance and Investment (DLBCFIE01)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Written Assessment: Written Assignment Study Format: myStudies Written Assessment: Written Assignment	

Weight of Module

see curriculum

Module Contents

- Introduction to Corporate Finance
- Ownership and Corporate Governance
- Understanding Financial Statements and Key Performance Indicators
- Basic Concepts of Financial Theory
- Types of Capital and Financing
- Short-term Financing Decisions
- Capital Budgeting and Decision-Making Methods in Investment

Learning Outcomes

Corporate Finance and Investment

On successful completion, students will be able to

- recognize the targets and scope of corporate finance and the role of financial markets .
- understand agency-problems in corporations and how incentives and institutional and market mechanisms are used to mitigate agency costs .
- interpret financial statements and key performance indicators and draw conclusions about financing alternatives and potentials of a corporation.
- consider the time value of money and calculate the cost of capital used to optimize future project cash flow streams.
- implement a long-term financing strategy and structure for corporations based on an appropriate mix of equity, debt, leasing, and hybrid financial instruments.
- effectively utilize cash management and working capital management to reduce short-term financing needs and costs.
- prepare investment decisions, estimate expected project cash flows and incorporate cash flow related risks into the decision process.
- apply investment decision methodologies to evaluate and select favorable corporate investment projects.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the fields of Finance & Tax Accounting	All Bachelor Programmes in the Business & Management fields

Corporate Finance and Investment

Course Code: DLBCFIE01

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

Course Description

This course introduces students to the targets and scope of corporate finance and the role of financial markets. The separation of ownership and control is a constituent feature of corporations; students explore the resulting agency problems and the mechanisms available to mitigate the costs of agency relationships.Students will be introduced to fundamentals of theory and practice regarding principles of modern corporate finance. They will learn to read and analyze financial statements from a financing point of view and develop a detailed understanding of concepts such as the time value of money, interest rates, and cost of capital. After introducing basic concepts, equity and debt financing will be discussed at length. The financial leverage effect on rates of return will be explored and leasing and hybrid financial instruments as an alternative to pure equity and debt financing are presented. Students will study how corporations apply short-term measures of financing and how effective cash and working capital management is used to reduce short-term financing needs and costs.This course will conclude with a discussion on the investment processes of corporations with a particular focus on the challenge of estimating expected cash flows. Students will learn how to include risk as a factor in the decision process and be able to analyse applied investment rules and methodologies.

Course Outcomes

On successful completion, students will be able to

- recognize the targets and scope of corporate finance and the role of financial markets .
- understand agency-problems in corporations and how incentives and institutional and market mechanisms are used to mitigate agency costs .
- interpret financial statements and key performance indicators and draw conclusions about financing alternatives and potentials of a corporation.
- consider the time value of money and calculate the cost of capital used to optimize future project cash flow streams.
- implement a long-term financing strategy and structure for corporations based on an appropriate mix of equity, debt, leasing, and hybrid financial instruments.
- effectively utilize cash management and working capital management to reduce short-term financing needs and costs.
- prepare investment decisions, estimate expected project cash flows and incorporate cash flow related risks into the decision process.
- apply investment decision methodologies to evaluate and select favorable corporate investment projects.

Contents

Literature
Compulsory Reading
Further Reading ▪ Brigham, E. F., & Houston, J. F. (2019). Fundamentals of financial management (15th ed.). Southwestern-Cengage. ▪ Zutter, C. J., & Smart, S. B. (2019). Principles of managerial finance (15th ed.). Pearson .

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Written Assignment

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Written Assignment

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
	☑ Audio	
	☑ Slides	

E-Commerce I

Module Code: DLBDBEEC1

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Kathrein Ristow (E-Commerce I)

Contributing Courses to Module

- E-Commerce I (BWEC01-01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Overview
- Players and market forms of e-commerce
- Revenue concepts in e-commerce
- Operation types and business models in e-commerce
- Legal Framework Conditions of e-commerce
- Strategies in e-commerce

Learning Outcomes

E-Commerce I

On successful completion, students will be able to

- understand electronic sales as a component of corporate strategy.
- understand the types of business and business models.
- outline the development of online markets.
- analyze legal and economic framework conditions.
- outline the main features of electronic commerce and make initial strategic decisions.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of E-Commerce	All Bachelor Programs in the Marketing & Communication field

E-Commerce I

Course Code: BWEC01-01_E

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

Course Description

This course uses the basics of business and economic principles to give students an initial introduction to the topic of e-commerce. First of all, actors and market forms are explained and possible business relationships are explained. Furthermore, possible operation types and business models in e-commerce are presented and explained in detail. In addition, the legal and economic framework conditions surrounding online retail are described. In summary, the course teaches basic technical terms and concepts from electronic commerce and deals with different strategies in e-commerce.

Course Outcomes

On successful completion, students will be able to

- understand electronic sales as a component of corporate strategy.
- understand the types of business and business models.
- outline the development of online markets.
- analyze legal and economic framework conditions.
- outline the main features of electronic commerce and make initial strategic decisions.

Contents

1. Overview
   - 1.1 Classification and Definitions
   - 1.2 Digital Transformation and Disruption
   - 1.3 Economic Importance for Trade
2. Actors and Market Forms in E-Commerce
   - 2.1 Market Participants and Business Relationships
   - 2.2 Online Shops
   - 2.3 Online Marketplaces
3. Revenues in E-Commerce
   - 3.1 Business Plan and Proof of Concept
   - 3.2 Revenue Models
4. Operation Types and Business Models in E-Commerce

4.1 Typologies of Operations
4.2 Business Model Diversity
4.3 Integration with Traditional Retail

5. Legal Framework Conditions of E-Commerce
5.1 Legal Regulations on Distance Selling
5.2 Data Protection
5.3 Copyright (German Copyright Law) and Domain Law
5.4 Imprint Obligation and Dispute Resolution

6. Strategies in E-Commerce
6.1 Strategies for Market Positioning
6.2 Strategies for Market Development and Market Penetration
6.3 Strategies for Market Expansion

Literature

Compulsory Reading

Further Reading

- Chaffey, D., Hemphill, T. & Edmundson-Bird, D. (2019), Digital Business and E-Commerce Management-Strategy, Implementation and Practice (7th edition) Pearson UK.
- Hanlon, A. (2022) Digital Marketing: Strategic Planning & Integration. SAGE Publications
- Hanlon, A. (2024) Digital Business: Strategy, Management & Transformation. SAGE Publications.
- Laudon, K. C., & Traver, C. G. (2023). E-Commerce 2023-2024: Business, Technology and Society (18th edition, Global Edition). Pearson.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Corporate Planning and Simulation

Module Code: BUPL_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

N.N. (Corporate Planning and Simulation)

Contributing Courses to Module

- Corporate Planning and Simulation (BUPL01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Proof of participation in the simulation game, with a minimum score (passed / not passed)	

Weight of Module

see curriculum

Module Contents

- Computer-Based Business Simulation Considering the Following Areas, Among Others:
- R&D
- Finance
- Production
- Purchasing
- Marketing and Sales

Learning Outcomes

Corporate Planning and Simulation

On successful completion, students will be able to

- make economic decisions in the economic areas of production, purchasing, finance, personnel, research and development as well as marketing and sales within the framework of a business management game.
- consider central aspects of personnel qualification, productivity, the product life cycle, the rationalization, the share price, as well as the environment and the value of the company in their decisions.
- design business goals and strategies, make decisions under time pressure and to analyze and evaluate the decisions made.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programs in the Business & Management field

Corporate Planning and Simulation

Course Code: BUPL01_E

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

Course Description

The computer-based business simulation puts students in the shoes of board members. Working in teams, they deepen their business knowledge, interlink it more strongly and present themselves in a dynamic market environment. The business game can address almost all areas (e.g. R&D, finance, production, purchasing, marketing and sales) of a company. In particular, internal accounting with detailed cost accounting, external accounting and market research reports provide the basis for decision-making. The complexity of the tasks/decisions increases in the course of the game, while the time sequences remain the same.

Course Outcomes

On successful completion, students will be able to

- make economic decisions in the economic areas of production, purchasing, finance, personnel, research and development as well as marketing and sales within the framework of a business management game.
- consider central aspects of personnel qualification, productivity, the product life cycle, the rationalization, the share price, as well as the environment and the value of the company in their decisions.
- design business goals and strategies, make decisions under time pressure and to analyze and evaluate the decisions made.

Contents

1. Corporate Goals and Strategies
2. Sales: Competitor Analysis, Marketing Mix, Product Life Cycles, Product Relaunch, New Product Introduction, Entry Into a New Market, Calculation of Special Business, Contribution Margin Calculation and Market Research Reports as Information Basis for Marketing Decisions
3. R&D: Technology, Ecology, Value Analysis
4. Procurement/Warehousing: Optimal Order Quantity
5. Manufacturing: Investment, Disinvestment, In-House or Outsourced Manufacturing, Utilization Planning, Green Production, Rationalization, Learning Curve

6. Personnel: Personnel Planning, Qualification, Productivity, Absenteeism, Fluctuation
7. Finance and Accounting: Cost Element, Cost Center, Cost Unit Accounting, Stepwise Contribution Margin Accounting, Financial Planning, Balance Sheet and Income Statement, Cash Flow
8. Share Price and Enterprise Value
9. Portfolio Analysis

Literature
Compulsory Reading
Further Reading ▪ Participants will receive a manual with their registration.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Proof of participation in the simulation game, with a minimum score (passed / not passed)

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods
Exam Preparation ☑ Guideline

Agile Project Management

Module Code: DLBCSAPM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Inga Schlömer (Agile Project Management)

Contributing Courses to Module

- Agile Project Management (DLBCSAPM01)

Module Exam Type

Module Exam	Split Exam
Study Format: myStudies Written Assessment: Project Report Study Format: Distance Learning Written Assessment: Project Report	

Weight of Module

see curriculum

Module Contents

- In this course, students are taught action competences in the field of agile project management. They will be familiarized with the values, activities, roles, and artifacts of agile procedures using Scrum as an example.

Learning Outcomes

Agile Project Management

On successful completion, students will be able to

- explain the differences between agile and plan-driven project management.
- explain agile principles.
- work together in an agile manner according to the values defined in Scrum.
- apply the activities defined in Scrum.
- take responsibility for the roles defined in Scrum.
- create and maintain the artefacts defined in Scrum.
- consider the increasing relevance of international, intercultural and virtual collaboration in projects.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Computer Science & Software Development	All Bachelor Programmes in the IT & Technology field

Agile Project Management

Course Code: DLBCSAPM01

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

Course Description

Students will receive a practical introduction to agile project management in this course. In addition to teaching its individual basic principles, the differences between agile project management and plan-driven project management will be examined in detail. In order to understand and experience agile project management, the values, activities, roles, and artefacts of typical agile procedures are presented using Scrum and then practiced on an example project.

Course Outcomes

On successful completion, students will be able to

- explain the differences between agile and plan-driven project management.
- explain agile principles.
- work together in an agile manner according to the values defined in Scrum.
- apply the activities defined in Scrum.
- take responsibility for the roles defined in Scrum.
- create and maintain the artefacts defined in Scrum.
- consider the increasing relevance of international, intercultural and virtual collaboration in projects.

Contents

- This course teaches students various skills in the field of agile project management. In contrast to plan-driven project management, the principles of agility used in modern software development are taught. Using the example of Scrum, students will acquire skills in applying an agile approach, and then apply their knowledge of respective roles and activities in a simple project to gain initial practical experience, documenting it in a project report. The content of the projects results from the individual abilities and requirements of the students.

Literature
Compulsory Reading
Further Reading

- Apress. Agile Alliance (2021). Subway Map to Agile Practices.
- Beck, K. et al. (2001). Manifesto for Agile Software Development.
- Chovanova, H. et al. (2020). Agile Project Management – What is It? Publisher: IEEE. In 18th International Conference on Emerging eLearning Technologies and Applications (ICETA), Emerging eLearning Technologies and Applications (ICETA), 2020 18th International Conference.
- Dalton, Jeff (2019). Great Big Agile. An OS for Agile Leaders.
- Douglass, B. P. (2016). Agile systems engineering. Morgan Kaufmann, p. 151-160.
- Hohl, P., Klünder, J., van Bennekum, A., Lockard, R., Gifford, J., Münch, J., Stupperich, M., & Schneider, K. (2018). Back to the future: origins and directions of the "Agile Manifesto" – views of the originators. Journal of Software Engineering Research and Development, 6(1).
- Project Management Institute (2017). Agile Practice Guide. Project Management Institute.
- Measey P./Radtac (2015). Agile Foundations - Principles, Practices and Frameworks. BCS The Chartered Institute for IT, p. 131-140, p. 148-152.
- Schwaber, K./Sutherland, J. (2020). The Scrum Guide.
- Hohl, P., Klünder, J., van Bennekum, A., Lockard, R., Gifford, J., Münch, J., Stupperich, M., & Schneider, K. (2018). Back to the future: origins and directions of the "Agile Manifesto" – views of the originators. Journal of Software Engineering Research and Development, 6(1).

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

5. Semester

Leadership 4.0

Module Code: DLBWPLS_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Tanja Moehler (Leadership 4.0)

Contributing Courses to Module

- Leadership 4.0 (DLBWPLS01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Duales myStudium Exam, 90 Minutes Study Format: myStudies Exam, 90 Minutes Study Format: Distance Learning Exam, 90 Minutes	

Weight of Module

see curriculum

Module Contents

- Conventional understanding of leadership
- Management tools
- Leadership versus management
- Integral concept of humankind as future-oriented model
- Characteristics and competencies of leaders
- Leadership models
- Agile Leadership instruments

Learning Outcomes

Leadership 4.0

On successful completion, students will be able to

- understand the classical theories of leadership and new leadership models.
- distinguish between the terms leadership and management.
- reflect on the understanding of successful leadership models against the background of economic changes.
- develop an understanding of the need for alternative forms of organizational directing.
- implement appropriate leadership methods according to a company's level of complexity.
- draw upon a sound theoretical understanding that they can practice in applied research.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Business Administration & Management	All Bachelor Programmes in the Business & Management fields

Leadership 4.0

Course Code: DLBWPLS01_E

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

Course Description

Today, competitiveness depends more than ever on continuous innovation. This puts new demands on the management of companies. The task of successful leaders in innovation and business is no longer to offer direction and solutions, but to create a framework in which others develop innovations. This change, which is currently taking place with full force in companies, requires further developments on classic leadership concepts and its principles.Against the background of digital change and the advance of artificial intelligence, established business models are constantly being put to the test. On the one hand, it is important to work on several projects simultaneously and to adapt flexibly to changing conditions at any time; on the other hand, employees want to be integrated into the work process in a different way. Consideration and flexibility for their personal and family situation play an increasing role. Innovation and business leaders can only meet all these diverse challenges with Leadership by inspiring others to think ahead and act inter-divisionally, in other words, to be visionary. This course tries to convey knowledge, understanding and tools for this challenging field of work.

Course Outcomes

On successful completion, students will be able to

- understand the classical theories of leadership and new leadership models.
- distinguish between the terms leadership and management.
- reflect on the understanding of successful leadership models against the background of economic changes.
- develop an understanding of the need for alternative forms of organizational directing.
- implement appropriate leadership methods according to a company's level of complexity.
- draw upon a sound theoretical understanding that they can practice in applied research.

Contents

1. Basics of the Leadership Concept
    - 1.1 Definition of the Leadership Concept and Leadership Actions
    - 1.2 Development of the Understanding of Leadership
    - 1.3 The Role of Communication in Leadership
    - 1.4 New Challenges for Leadership
2. Leadership Versus Management

2.1 Distinctions between these Concepts
2.2 Relevance of Leadership in the Context of Technological Change
2.3 New Forms of Work as a Challenge for Leadership 4.0

3. Organizational Prerequisites for Successful Leadership
3.1 Launching Corporate Governance Initiatives
3.2 From Process to Project Management
3.3 Managing Limited Resources

4. Personal Factors for Successful Leadership
4.1 Personal Characteristics
4.2 Technological Know-how
4.3 Policy and Compliance

5. Management Tools
5.1 Definition, Differentiation and Challenges
5.2 Use of Direct Management Tools
5.3 Use of Indirect Management Tools

6. Leadership 4.0 Models
6.1 Transformational Leadership
6.2 Leadership as an Agile Role
6.3 Authentic Leadership

7. Leadership 4.0 Case Studies
7.1 Allsafe Jungfalk
7.2 Automattic

Literature

Compulsory Reading

Further Reading

- Seliger, R (2022): Positive Leadership. The Management revolution, Schäffer-Poeschel, Freiburg
- Luthans, F. (2021): Organizational Behavior: An Evidence-Based Approach, 14th Edition. Charlotte, NC : Information Age Publishing.
- Helmod, M. (2021): New Work, Transformational and Virtual Leadership: Lessons from Covid-19 and other crisis, Springer, Wiesbaden.

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	**Course Type**
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Data Analytics and Big Data

Module Code: DLBINGDABD_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Gereon Wellmann (Data Analytics and Big Data)

Contributing Courses to Module

- Data Analytics and Big Data (DLBINGDABD01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: myStudies Written Assessment: Case Study Study Format: Distance Learning Written Assessment: Case Study	

Weight of Module

see curriculum

Module Contents

- Introduction to Data Analysis
- Statistical Basics
- Data Mining
- Big Data Methods and Technologies
- Legal Aspects of Data Analysis
- Solution Scenarios
- Application of Big Data in the Industry

Learning Outcomes

Data Analytics and Big Data

On successful completion, students will be able to

- distinguish between information and data and know the meaning of these terms for decision-making.
- derive the Big Data issue, especially in connection with Internet of Things, and describe it using examples.
- identify basics from statistics, which are necessary for the analysis of large data sets.
- identify the process of data mining and classify different methods in it.
- identify selected methods and technologies that are used in the Big Data context and apply them to simple examples.
- recognize the legal framework for the application of data analysis in Germany and internationally.
- identify the specific prospects and challenges of applying Big Data analyses in industry.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Data Science & Artificial Intelligence	All Bachelor Programs in the IT & Technology field

Data Analytics and Big Data

Course Code: DLBINGDABD01_E

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

Course Description

The aim of the course is to familiarize students with selected methods and techniques of data analysis in the context of continuously increasing, heterogeneous data sets. To this end, the fundamental relevance of Big Data methods is presented by drawing on the historical development of stored data. One decisive factor here is the continuous transmission Internet of Things sensor data to other systems. This is followed by a short introduction to the essential statistical fundamentals before the individual steps of the data mining process are discussed. In distinction to these classical procedures, selected methods are presented with which stored data in the Big Data context can be made analyzable. As data analysis is subject to certain legal frameworks, this course also covers legal aspects such as data protection. The course concludes with an overview of the practical application of Big Data methods and tools. In particular, fields of application in the industrial context are examined.

Course Outcomes

On successful completion, students will be able to

- distinguish between information and data and know the meaning of these terms for decision-making.
- derive the Big Data issue, especially in connection with Internet of Things, and describe it using examples.
- identify basics from statistics, which are necessary for the analysis of large data sets.
- identify the process of data mining and classify different methods in it.
- identify selected methods and technologies that are used in the Big Data context and apply them to simple examples.
- recognize the legal framework for the application of data analysis in Germany and internationally.
- identify the specific prospects and challenges of applying Big Data analyses in industry.

Contents

1. Introduction to Data Analysis
    - 1.1 Decisions, Information, Data
    - 1.2 Historical Development of Data Storage and Evaluation
    - 1.3 Big Data: Features and Examples
    - 1.4 Data Analysis

Literature
Compulsory Reading
Further Reading ▪ Akerkar, R., & Srinivas Sajja, P. (2016). Intelligent Techniques for Data Science. Springer. ▪ Curry, E., Auer, S., Berre, A., J., Metzger, A., Perez, M., S., & Zillner, S. (2022). Technologies and Applications for big data value. Springer. Pages 1–15 & 321–344. ▪ Hoeren, T., & Kolany-Raiser, B., (Eds.). (2018). Big data in context – Legal, social and technological insights. Springer Nature. ▪ Illowsky, B., & Dean, S. (2018). Introductory statistics. OpenStax CNX. Chapters 2 & 8. ▪ Jurafsky, D., & Martin, J. H. (2013). Speech and language processing: an introduction to natural language processing, computational linguistics, and speech recognition (2. ed.). Pearson Prentice Hall.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods

Tutorial Support
☑ Course Feed
☑ Intensive Live Sessions/Learning Sprint
☑ Recorded Live Sessions

Learning Material
☑ Course Book
☑ Video

Exam Preparation
☑ Online Tests
☑ Guideline

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Introduction to Data Science

Module Code: DLBDSIDS

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Thomas Zöller (Introduction to Data Science)

Contributing Courses to Module

- Introduction to Data Science (DLBDSIDS01)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Oral Assignment	

Weight of Module

see curriculum

Module Contents

- Introduction to data science
- Data
- Data science in business
- Statistics
- Machine learning

Learning Outcomes

Introduction to Data Science

On successful completion, students will be able to

- define data science and its relation to other fields.
- comprehend data science activities.
- recognize the origins of data and the challenges of working with data.
- understand how data science methods are integrated into business settings.
- grasp fundamental statistical concepts.
- appreciate the importance of machine learning in data science.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Data Science & Artificial Intelligence	All Bachelor Programmes in the IT & Technology fields

Introduction to Data Science

Course Code: DLBDSIDS01

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

Course Description

Data science emerged as a multi-disciplinary field aimed at creating value from data. This course starts with an overview of data science and related fields and then defines data types and sources. Special focus is put on the assessment of data quality and electronic data processing.Use of data-driven methods has become vital for businesses, and this course outlines how data-driven approaches can be integrated within a business context and how operational decisions can be made using data-driven methods.Finally, this course highlights the importance of statistics and machine learning in the field of data science and gives an overview of relevant methods and approaches.

Course Outcomes

On successful completion, students will be able to

- define data science and its relation to other fields.
- comprehend data science activities.
- recognize the origins of data and the challenges of working with data.
- understand how data science methods are integrated into business settings.
- grasp fundamental statistical concepts.
- appreciate the importance of machine learning in data science.

Contents

1. Introduction to Data Science
   - 1.1 Definition of the term „data science“
   - 1.2 Data science and related fields
   - 1.3 Data science activities
2. Data
   - 2.1 Data types and data sources
   - 2.2 The 5Vs of data
   - 2.3 Data curation and data quality
   - 2.4 Data engineering
3. Data Science in Business
   - 3.1 Identification of use cases

3.2 Performance evaluation
3.3 Data-driven operational decisions
3.4 Cognitive biases

4. Statistics
   4.1 Importance of statistics for data science
   4.2 Important statistical concepts

5. Machine Learning
   5.1 Role of machine learning in data science
   5.2 Overview of machine learning approaches

Literature

Compulsory Reading

Further Reading

- Akerkar, R., & Sajja, P. S. (2016). Intelligent techniques for data science. New York, NY: Springer International Publishing.
- Hodeghatta, U. R., & Nayak, U. (2017). Business analytics using R—A practical approach. New York, NY: Apress Publishing.
- Runkler, T. A. (2012). Data analytics: Models and algorithms for intelligent data analysis. New York, NY: Springer.
- Skiena, S. S. (2017). The data science design manual. New York, NY: Springer International Publishing.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Oral Assignment

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
	☑ Audio	
	☑ Slides	

Project: New Work

Module Code: DLBPEPNW_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	5	150 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Dr. Anna Meindl (Project: New Work)

Contributing Courses to Module

- Project: New Work (DLBPEPNW01_E)

Module Exam Type

Module Exam	Split Exam
Study Format: Distance Learning Portfolio	

Weight of Module

see curriculum

Module Contents

The course deals with the managerial, organizational and workplace changes affecting companiesas a result of megatrends.

Learning Outcomes

Project: New Work

On successful completion, students will be able to

- define and explain the term New Work.
- develop a grasp for changes in work, leadership and organization in the wake of important megatrends and their effects.
- explain the stages of change processes in the context of the New Work concept and to implement them in an example project.
- apply important methods and tools in change processes.
- reflect and document the most important lessons learned for change processes.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Human Resources	All Bachelor Programs in the Human Resources fields

Project: New Work

Course Code: DLBPEPNW01_E

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

Course Description

The term New Work, as a collective term for all changes to work, leadership and organization, is the focus of this course and will be explored by the students using practical examples. On the basis of a project from company HR practice with a focus on New Work, a portfolio will be developed in which the students reflect and document their most important learning experiences. This will allow the students to further develop ttheir echnical, methodological, personal and social skills.

Course Outcomes

On successful completion, students will be able to

- define and explain the term New Work.
- develop a grasp for changes in work, leadership and organization in the wake of important megatrends and their effects.
- explain the stages of change processes in the context of the New Work concept and to implement them in an example project.
- apply important methods and tools in change processes.
- reflect and document the most important lessons learned for change processes.

Contents

- New Work deals with changes resulting from megatrends which in turn impact the work, leadership and organizational aspects. These megatrends can be digitalization, globalization, demographic trends or changing values. Possible contents of the course are:
  - new models for workplace design (e.g. Co-Working space)
  - new models of collaboration (e.g. virtual teams, mixed-age teams)
  - new models of leadership (e.g. shared leadership, agile leadership)
  - agile organization (e.g. Holocracy)
  - Effects on staff development (e.g. shifting the responsibility for lifelong learning to the employee)

  The process of change that accompanies the introduction of these new concepts is to be exemplified and the important learning experiences of the students reflected and documented.

Literature
Compulsory Reading
Further Reading ▪ Cameron, Esther & Green, Mike (2015) Making Sense of Change Management: A Complete Guide to the Models, Tools and Techniques of Organizational Change, 4th Ed., Kogan Page Limited, London, UK. ▪ Harteis C. (eds) The Impact of Digitalization in the Workplace.An Educational View. Springer, Cham. ▪ Keller, Scott, and Schaninger, Bill (2019) Beyond Performance 2.0: A Proven Approach to Leading large-Scale Change, McKinsey & Company, John Wiley and Sons. ▪ Kotter, John P. (2012) Leading Change, Harvard Business Review Press. ▪ On Change Management (2011), Harvard Business Review Press, Boston MA. ▪ Merlijn Venus, Daan Stam, and Daan van Knippenberg (2018) Research: To Get People to Embrace Change, Emphasize What Will Stay the Same, Harvard Business Review, August 15, 2018. ▪ Hatum, Andres (2013) The New Workforce Challenge - How Today's Leading Companies Are Adapting to the Future. PagraveMacmillan.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Slides	☑ Guideline

Content Marketing and CRM

Module Code: DLBDBEECMCRM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Tanja Moehler (Customer Relationship Management) / N.N. (Content Marketing)

Contributing Courses to Module

- Customer Relationship Management (DLBCRM01_E)
- Content Marketing (DLBOMCM01_E)

Module Exam Type

Module Exam	Split Exam
	Customer Relationship Management • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Content Marketing • Study Format "Distance Learning": Written Assessment: Case Study

Weight of Module

see curriculum

Module Contents

Customer Relationship Management

- Theoretical Basis for CRM
- The Customer Lifecycle and Customer Relationship Cycle
- Customer Satisfaction and Loyalty
- Customer Loyalty Management
- Customer Value and Customer Portfolio Management
- Strategies and Tools of CRM
- CRM Implementation and Monitoring

Content Marketing

- Content Marketing Basics
- Content Marketing Strategies
- Operational Content Marketing
- Content Controlling
- Content Production

Learning Outcomes

Customer Relationship Management

On successful completion, students will be able to

- recall the basics and theoretical explanations of customer relationship management.
- analyze economic management of customer relationships.
- understand the construct of the customer life or customer relationship cycle and its implications for the application of CRM tools.
- classify and measure customer satisfaction and loyalty and present the impact chain of customer loyalty and its contribution to the economic success of a company.
- master the development, planning and implementation of customer loyalty measures.
- classify customers according to their customer value and manage an efficient allocation of resources to create profitable customer relationships.
- use alternative strategies and instruments of CRM, implement them and check their impact on success.

Content Marketing

On successful completion, students will be able to

- understand the strategic importance of content marketing and integrate content marketing into the company's marketing mix.
- develop and successfully implement a content marketing strategy.
- develop precisely tailored approaches via the right channels with the appropriate content for the target groups.
- efficiently organize content planning, attract stakeholders, and manage resources to be used correctly.
- produce the right mix of different content and deliver content along the customer journey.
- measure effectiveness of measures and identify potential for improvement.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the fields of Marketing & Sales and Online & Social Media Marketing	All Bachelor Programs in the Marketing & Communication field

Customer Relationship Management

Course Code: DLBCRM01_E

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

Course Description

Customer Relationship Management is considered a central and fundamental concept of marketing management to optimally shape customer relationships. All processes of a company should be consistently and sustainably oriented towards the customer and their needs. This fundamental understanding as well as a broad overview of the topic area of CRM are conveyed to the students. In addition to the theoretical fundamentals of customer relations, this course deals with the customer life and customer relationship cycle, customer satisfaction and loyalty, customer retention management as well as customer value and customer portfolio management. The practical application is addressed through the presentation of the various strategies and instruments of CRM and also in the concrete implementation and controlling of CRM.

Course Outcomes

On successful completion, students will be able to

- recall the basics and theoretical explanations of customer relationship management.
- analyze economic management of customer relationships.
- understand the construct of the customer life or customer relationship cycle and its implications for the application of CRM tools.
- classify and measure customer satisfaction and loyalty and present the impact chain of customer loyalty and its contribution to the economic success of a company.
- master the development, planning and implementation of customer loyalty measures.
- classify customers according to their customer value and manage an efficient allocation of resources to create profitable customer relationships.
- use alternative strategies and instruments of CRM, implement them and check their impact on success.

Contents

1. Basics of CRM
    - 1.1 CRM Terms and Objectives
    - 1.2 The Economic Importance of the Customer
    - 1.3 From Transaction-Oriented to Relationship-Oriented Marketing
    - 1.4 Tasks and Structure of CRM
2. Theoretical Basis for CRM

Literature
Compulsory Reading
Further Reading ▪ Buttle, F. A., & Maklan, S. (2019). Customer relationship management: Concepts and technologies (4th ed.). Routledge. ▪ Kumar, V., & Reinartz, W. J. (2018). Customer relationship management: Concept, strategy, and tools (3rd ed.). Springer. ▪ Palmatier, R. W., & Steinhoff, L. (2019). Relationship marketing in the digital age. Routledge.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods

Tutorial Support
☑ Course Feed
☑ Intensive Live Sessions/Learning Sprint
☑ Recorded Live Sessions

Learning Material
☑ Course Book
☑ Video

Exam Preparation
☑ Practice Exam
☑ Online Tests

Content Marketing

Course Code: DLBOMCM01_E

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

Course Description

Both, consumers and B2B decision-makers are inundated with a wealth of information. The result is measurable fatigue with push advertising - click-through rates for classic banners are already below 0.10%. In contrast, there are numerous examples of companies with successful content marketing strategies: according to Forrester Insights, 57% of companies using content marketing have seen a significant increase in revenue. Studies by Nielsen underline the importance of relevant content: 85% of consumers specifically look for advisory content from reliable sources before making a purchase. For this reason, more and more companies are focusing on trustworthy content for consumers and using content marketing specifically to increase ROI over traditional campaigns. However, the success of content marketing does not automatically materialize through the haphazard provision of additional content. A higher return on investment can only be realized through a content strategy tailored to the target group and a planned content production. In this course, students learn to distinguish general claims from content worth telling. The focus is particularly on strategy development, as well as production and success measurement of content with added value.

Course Outcomes

On successful completion, students will be able to

- understand the strategic importance of content marketing and integrate content marketing into the company's marketing mix.
- develop and successfully implement a content marketing strategy.
- develop precisely tailored approaches via the right channels with the appropriate content for the target groups.
- efficiently organize content planning, attract stakeholders, and manage resources to be used correctly.
- produce the right mix of different content and deliver content along the customer journey.
- measure effectiveness of measures and identify potential for improvement.

Contents

1. Content Marketing Basics
    - 1.1 Definition and Classification
    - 1.2 Digital Transformation and Development of Content Marketing
    - 1.3 Content Marketing and Search Engine Optimization

2. Content Marketing Strategies
   - 2.1 Basics for the Development of a Strategy
   - 2.2 Analytics in Content Marketing
   - 2.3 Cross-Media Campaigns
   - 2.4 Storytelling

3. Operational Content Marketing
   - 3.1 Content Marketing Process and Organization
   - 3.2 Content Audit
   - 3.3 Content Planning
   - 3.4 Content Production
   - 3.5 Content Distribution
   - 3.6 Legal Aspects
   - 3.7 Content Marketing and Search Engines

4. Content Controlling
   - 4.1 KPIs, Tracking and Targets
   - 4.2 Marketing Automation
   - 4.3 Tools for Content Marketing and Automation

5. Content Production
   - 5.1 Introduction
   - 5.2 Success Factors
   - 5.3 Content Aspects
   - 5.4 Search Engine Optimization
   - 5.5 E-commerce: Product Texts
   - 5.6 Social Media: Online PR
   - 5.7 Copywriting Tools

Literature
Compulsory Reading
Further Reading ▪ Scott, David Meerman (2022): The New Rules of Marketing and PR: How to Use Content Marketing, Podcasting, Social Media, AI, Live Video, and Newsjacking to Reach Buyers Directly, John Wiley and Sons. ▪ Pulizzi, Joe (2021): Content Inc.: Start a Content-First Business, Build a Massive Audience and Become Radically Successful (with Little to No Money), McGraw-Hill Education Ltd; 2. Edition. ▪ Nayak, S. P. (2021): The Role of Content Marketing in the Minds of Different Customer Audience. CLEAR International Journal of Research in Commerce & Management , Apr2021, Vol. 12 Issue 4, pp. 10-15. ▪ Turner, G. (2019): Content Marketing: Proven Strategies to Attract an Engaged Audience Online with Great Content and Social Media to Win More Customers, Build your Brand and Boost Your Business (Marketing and Branding), Independently Published.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
	☑ Audio	
	☑ Slides	

Business Consulting

Module Code: BWCN_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Johannes Ritz (Business Consulting I) / Johannes Ritz (Business Consulting II)

Contributing Courses to Module

- Business Consulting I (BWCN01_E)
- Business Consulting II (BWCN02_E)

Module Exam Type

Module Exam	Split Exam
	Business Consulting I • Study Format "Distance Learning": Exam, 90 Minutes Business Consulting II • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Business Consulting I

- Introduction to Business Consulting
- Forms and Functions of Business Consulting
- The Market for Business Consulting
- History, pioneers and concepts
- Consulting fields

Business Consulting II

- Business Modell of Business Consulting
- Forms and Functions of Business Consulting
- Marketing of Consulting Services
- Consultant Liability, Contract Drafting and Professional Law
- The Consulting Project

Learning Outcomes

Business Consulting I

On successful completion, students will be able to

- understand the various definitions of business consulting.
- explain the tasks and approaches of business consultants.
- name the characteristics of business consultancies.
- explain business consulting as a highly specialized service.
- identify the specifics of the consultant-client relationship.

Business Consulting II

On successful completion, students will be able to

- explain the special framework conditions of consulting companies.
- identify the approaches in marketing for consulting services.
- explain the strategic and operational direction of consulting companies.
- understand the challenges of human resource management in consulting companies.
- explain the operational phases of the consulting process.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programs in the Business & Management field

Business Consulting I

Course Code: BWCN01_E

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

Course Description

Business consulting is a professional service whose overall economic significance is increasing. Business consultants provide professional consulting services for client companies. This requires the ability to analyze and evaluate specific corporate and market situations with the help of modern management concepts. Based on their analyses, business consultants make recommendations for optimizing corporate strategies, structures and processes and - if desired - accompany them during implementation and realization. In order to fulfill successfully the various functions and tasks of business consulting, business consultants require a differentiated profile of technical-methodical and personal-social competencies. The center of professional competencies is composed of basic and specialized knowledge in consulting and business administration. They include analytical skills for understanding corporate and market situations as well as the ability to plan, implement and control consulting projects. The development of personal and social competences aims at the client-centeredness of the students in the sense of the ability to adapt to the individual consulting needs of clients.

Course Outcomes

On successful completion, students will be able to

- understand the various definitions of business consulting.
- explain the tasks and approaches of business consultants.
- name the characteristics of business consultancies.
- explain business consulting as a highly specialized service.
- identify the specifics of the consultant-client relationship.

Contents

1. Introduction to Business Consulting
   - 1.1 Business Consulting – Management Consulting
   - 1.2 Business Consulting as a Subject of Science
2. History, Pioneers, and Concepts
   - 2.1 History of Business Consulting
   - 2.2 Business Consulting Concepts
3. Forms and Functions of Business Consulting

3.1 The External Consulting Process
3.2 Inhouse Consulting

4. The Market for Business Consulting
   4.1 Data, Structures, and Trends
   4.2 Consulting Companies in Germany

5. Consulting Fields
   5.1 Strategy Consulting
   5.2 Organization and Transformation Consulting
   5.3 IT Consulting

Literature

Compulsory Reading

Further Reading

- Cerruti, C., Tavoletti, E., & Grieco, C. (2019). Management consulting: a review of fifty years of scholarly research. Management Research Review, 42(8), 902-925.
- Curuksu, J.D. (2018). Data Driven. An Introduction to Management Consulting in the 21st Century. Cham, Switzerland: Springer.
- da Costa, R. L., et al. (2013). The „Fashionable Knowledge“ of Management Consulting. Journal of Management and Sustainability, 3(3), 180-188.
- FEACO. (2019). Survey of the European Management Consultancy 2018/2019. Retrieved from http://www.feaco.org/sites/default/files/sitepagefiles/Feaco.Survey%202018-2019.pdf
- Kubr, M. (2002). Management Consulting: A Guide to the Profession. (4th ed). Genf: International Labour Office.
- Nippa, M., & Petzold, K. (2002). Economic functions of management consulting firms – an integrative theoretical framework. In Academy Of Management Proceedings & Membership Directory, B1–B6.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Business Consulting II

Course Code: BWCN02_E

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

Course Description

Business consultants offer professional consulting services for client companies. The object of business consulting is therefore the acquisition, planning and implementation of business consulting projects. The content of these consulting projects is diverse and, depending on the task, can include aspects of strategic corporate management, challenges in the area of financing and cost reduction, the introduction of new technologies, working methods and systems, internal communication, restructuring, mergers/acquisitions or outsourcing of companies or individual company divisions. Consulting projects and consulting processes are characterized by recurring elements, the understanding and application of which significantly influence the success of a consulting service. The competence and quality of contract acquisition and project management is determined by the management of the consulting firm itself. Depending on the consulting philosophy, consulting concept, consulting organization and service marketing, success or failure is reached in consultant-client relationships. Participation in the course requires successful completion of the Business Consulting I course.

Course Outcomes

On successful completion, students will be able to

- explain the special framework conditions of consulting companies.
- identify the approaches in marketing for consulting services.
- explain the strategic and operational direction of consulting companies.
- understand the challenges of human resource management in consulting companies.
- explain the operational phases of the consulting process.

Contents

1. The Business Model of Business Consulting
   - 1.1 The Business Consultancy as a Professional Service Firm
   - 1.2 The Value Creation Model of Business Consulting
   - 1.3 The Market Environment of the Consulting Company
2. The Management of the Consultancy Company
   - 2.1 Fields of Action and Decision-Making for the Management of Business Consulting Companies
   - 2.2 Normative and Strategic Fields of Action and Decision-Making

2.3 Personnel and HR Management in the Consulting Company

3. Marketing of Consulting Services
   - 3.1 Special Features of Service Marketing
   - 3.2 Strategic Marketing of Consulting Companies
   - 3.3 Relationship Marketing of Consulting Companies

4. Consultant Liability, Contract Drafting and Professional Law
   - 4.1 Consultant Liability
   - 4.2 Contract Drafting
   - 4.3 Legal Issues of Professional Practice

5. The Consulting Project
   - 5.1 Requirements
   - 5.2 Settings and Techniques
   - 5.3 Consulting Phase

Literature

Compulsory Reading

Further Reading

- Block, P. (2011). Flawless consulting: A guide to getting your expertise used (3rd ed.). Pfeiffer.
- Chereau, P., & Meschi, P.-X. (2018). Strategic consulting: Tools and methods for successful strategy missions. Palgrave Macmillan.
- Kaiser, S., & Others. (2015). Human Resource Management in Professional Service Firms: Learning from a framework for research and practice. Zeitschrift Für Personalforschung, 29(2), 77-101.
- Kubr, M. (2002). Management consulting: A guide to the profession (4th ed.). International Labour Office.
- Skjølsvik, T., Pemer, F., & Løwendahl, B. (2017). Strategic management of professional service firms: Reviewing ABS journals and identifying key research themes. Journal Of Professions & Organization, 4(2), 203-239.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods

Tutorial Support
☑ Course Feed
☑ Intensive Live Sessions/Learning Sprint
☑ Recorded Live Sessions

Learning Material
☑ Course Book
☑ Video

Exam Preparation
☑ Practice Exam
☑ Online Tests

Markets and Advertising

Module Code: DLBIOPEMAA

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimaldauer: 1 Semester	WiSe/SoSe	English

Module Coordinator

N.N. (Advertising Psychology) / N.N. (Digital Methods in Market Research)

Contributing Courses to Module

- Advertising Psychology (DLBWPMUW02_E)
- Digital Methods in Market Research (DLBWPWMW01_E)

Module Exam Type

Module Exam	Split Exam
	Advertising Psychology • Study Format "Distance Learning": Exam, 90 Minutes Digital Methods in Market Research • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Advertising Psychology

- Fundamentals and Development of Advertising Psychology
- Theories and Models of Advertising Impact
- Perception
- Attention
- Psychology of Learning, in Particular Emotional Conditioning
- Memory
- Psychological Reactance, Attitude and Attitude Change
- Methods of Advertising Psychology

Digital Methods in Market Research

- Digital methods in market research
- Online research
- Market research apps
- Comparison online-offline methods

Learning Outcomes

Advertising Psychology

On successful completion, students will be able to

- name the main concepts in advertising psychology and place them in the overall context of industrial and organizational psychology.
- name the most important psychological aspects of the advertising effect and to derive recommendations for actions to optimize them.
- assess which procedures they can use to evaluate the quality of these recommendations for application.
- convey the cognitive processing of their information to their addressees and thereby avoid (or consciously use) cognitive dissonance.
- emotionally charge an offer, a person or a brand.
- critically question investigations and studies with the help of the developed inventory of methods and to conduct own studies.

Digital Methods in Market Research

On successful completion, students will be able to

- understand the digital needs of customers.
- apply digital quantitative market research methods.
- know digital qualitative market research methods.
- reflect on the knowledge gained from different methods.
- carry out a digital market research project.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Psychology	All Bachelor Programs in the Social Sciences field

Advertising Psychology

Course Code: DLBWPMUW02_E

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

Course Description

Advertising Psychology applies the basic disciplines of general psychology such as perception, learning, emotions, attitudes and motives to advertising, by exploring its special features. The focus is also on unconscious memories and motives. The primary question is which theoretical concepts can provide recommendations for action under the conditions of information overload, loss of trust in institutions and the media, and the rapid development and spread of new media such as v-blogs and virtual reality.

Course Outcomes

On successful completion, students will be able to

- name the main concepts in advertising psychology and place them in the overall context of industrial and organizational psychology.
- name the most important psychological aspects of the advertising effect and to derive recommendations for actions to optimize them.
- assess which procedures they can use to evaluate the quality of these recommendations for application.
- convey the cognitive processing of their information to their addressees and thereby avoid (or consciously use) cognitive dissonance.
- emotionally charge an offer, a person or a brand.
- critically question investigations and studies with the help of the developed inventory of methods and to conduct own studies.

Contents

1. Fundamentals and Development of Advertising Psychology
   - 1.1 Definition and Development of Advertising Psychology
   - 1.2 Psychological Disciplines and Their Contributions to Advertising Psychology
   - 1.3 Environmental Conditions of Advertising, Crisis of Classical Advertising
   - 1.4 Advertising "Above/Below the Line"
   - 1.5 Advertising in the Communication Process
   - 1.6 Concepts and Terms for Advertising Design
2. Models of Advertising Impact
   - 2.1 Mechanistic Stimulus-Response Models (S-R, S-O-R)

2.2 Hierarchical Models of Advertising Impact
2.3 Two-Process Models

3. Perception
   3.1 Hypothesis Theory of Perception
   3.2 Psychophysics
   3.3 The Sensory Modalities
   3.4 Multisensual Appeal

4. Attention
   4.1 Attention Control
   4.2 Advertising in Times of Information Overload
   4.3 Implementation for Advertising Design
   4.4 Advertising Impact Without Attention

5. Learn
   5.1 Signal Learning, Classical Conditioning According to Pavlov
   5.2 Emotional (Evaluative) Conditioning
   5.3 Operant Conditioning
   5.4 Model Learning in Advertising

6. Memory
   6.1 Encoding and Retrieval
   6.2 The Model of Memories
   6.3 Forgetting and Interference Effects
   6.4 Implicit Recall and the Mere-Exposure Effect

7. Attitude and Attitude Change
   7.1 Concept of Recruitment
   7.2 Dual Process Theories
   7.3 The Role of Credibility
   7.4 Influence and Reactance
   7.5 Storytelling in Advertising

8. Morphological Approaches
   8.1 Roots of the Morphological Approaches
   8.2 Scissors Analysis of the Advertising Effect
   8.3 Morphological Advertising Impact Analyses

9. Methods of Advertising Psychology
   - 9.1 Response Bias in Psychological Advertising Research
   - 9.2 Biopsychological and Neuroscientific Methods
   - 9.3 Quantitative Methods in Advertising Psychology
   - 9.4 Qualitative Methods in Advertising Psychology
   - 9.5 Advertising and New Media

Literature

Compulsory Reading

Further Reading

- Billeter, D., Kalra, A., & Loewenstein, G. (2011) .Underpredicting Learning after Initial Experience with a Product. Journal of Consumer Research, 37(5),723-736.
- Fennis, B. & Stroebe, W. (2021). The Psychology of Advertizing, 3rd ed, Routledge.
- Kahneman (2011). The characters of the story.Thinking Fast and Slow (Chapter1).
- Solomon, M., Marshall, G. W. & Stuart, E. W. (2006). Advertising and Public Relations. In M. Solomon, G. W. Marshall & E. W. Stuart. Marketing: Real people, real choices. (p.393-426). Upper Saddle River: Pearson.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Digital Methods in Market Research

Course Code: DLBWPWMW01_E

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

Course Description

Since the beginning of the digital age, consumers have also been spending more time in the digital space. Market research is about understanding the needs of consumers in order to be able to offer target groups the right product. For this reason, the methods must be adapted so that customers are appropriately approached. Online surveys now account for the largest share of market research. In addition, there are various technological possibilities, such as facial muscle scans or personal tracking apps, to capture needs and trends ever more precisely. Both quantitative and qualitative market research is thus becoming increasingly digital, even if the principles of gaining insights are based on classic market research methods. This course will highlight the evolution of market research, introduce new quantitative and qualitative methods and tools, and evaluate from a psychological perspective how the future of market research is evolving.

Course Outcomes

On successful completion, students will be able to

- understand the digital needs of customers.
- apply digital quantitative market research methods.
- know digital qualitative market research methods.
- reflect on the knowledge gained from different methods.
- carry out a digital market research project.

Contents

1. Development of Market Research
   - 1.1 Accessibility of Consumers via different Channels
   - 1.2 Development of different Methods and Tools
2. Basics of Market Research
   - 2.1 Primary versus Secondary Research
   - 2.2 Qualitative versus Quantitative Research
   - 2.3 Market Research Institutes and their Tasks
3. Quantitative Market Research Methods
   - 3.1 Online Panel

3.2 Mystery Online Shopping
3.3 Posting/Social Media Analysis

4. Qualitative Methods
   4.1 Online Forums/Focus Groups
   4.2 Diary App
   4.3 Facial Coding
   4.4 Eye Tracking

5. The Digital Market Research Project
   5.1 Order Placement/Briefing
   5.2 Method and Sample Selection
   5.3 Implementation and Evaluation
   5.4 Presentation and Knowledge Gain

6. Data Protection and the Future of Digital Market Research
   6.1 Digital Footprint Analysis
   6.2 Application Examples Smart Data
   6.3 Data Protection Law and Ethical Aspects

Literature

Compulsory Reading

Further Reading

- Esteban Bravi, M., Vidal Sanz, J. (2021). Marketing Research Methods. Cambridge University Press.
- Konnikov, E.; Konnikova, O.; Rodionov, D.; Yuldasheva, O. (2021). Analyzing Natural Digital Information in the Context of Market Research. Information, 12, 387.
- Ronan, G. (2017). The future of market research. Kindle Paperwhite.

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Salesforce Platform Development

Module Code: DLSFPD

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Thomas Bolz (Salesforce Platform App Builder) / Prof. Dr. Thomas Bolz (Salesforce Platform Developer)

Contributing Courses to Module

- Salesforce Platform App Builder (DLSFPD01)
- Salesforce Platform Developer (DLSFPD02)

Module Exam Type

Module Exam	Split Exam
	Salesforce Platform App Builder • Study Format "Duales myStudium": Written Assessment: Project Report • Study Format "myStudies": Written Assessment: Project Report • Study Format "Distance Learning": Written Assessment: Project Report Salesforce Platform Developer • Study Format "Distance Learning": Oral Project Report • Study Format "Duales myStudium": Oral Project Report • Study Format "myStudies": Oral Project Report

Weight of Module
see curriculum

Module Contents

Salesforce Platform App Builder

Using the learning platform Trailhead students will learn the fundamentals of Salesforce. At the end of the course, the students will be able to design, build and deploy custom applications. This course prepares them for the Salesforce Platform App Builder Certification.

Salesforce Platform Developer

Using the learning platform Trailhead students will learn how to develop own applications, built from various parts of the Salesforce platform. At the end of the course they will be able to use Apex, Visualforce and basic Lightning components. This course prepares the students for the Salesforce Platform Developer I Certification.

Learning Outcomes

Salesforce Platform App Builder

On successful completion, students will be able to

- define what Salesforce and customer relationship management is,
- design the data model, user interface, and business logic for custom applications,
- customize applications for mobile use,
- design reports and dashboards,
- manage application security and deploy custom applications.

Salesforce Platform Developer

On successful completion, students will be able to

- develop own applications using Apex and basic Lightning components,
- write SOSL, SOQL and DML statements,
- use Visualforce to build custom user interfaces for mobile and web apps,
- build reusable, performant components that follow modern web standards,
- use the built-in testing framework to test Apex and Visualforce.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Marketing & Sales	All Bachelor Programs in the Marketing & Communication field

Salesforce Platform App Builder

Course Code: DLSFPD01

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

Course Description

Salesforce is the most used software solution for customer relationship management worldwide. This solution can be customized and personalized for the needs of customers, partners and employees. Using the learning platform Trailhead, students will learn independently the fundamentals of Salesforce and the development of customized application. This course prepares students for the Salesforce Platform App Builder Certification.

Course Outcomes

On successful completion, students will be able to

- define what Salesforce and customer relationship management is,
- design the data model, user interface, and business logic for custom applications,
- customize applications for mobile use,
- design reports and dashboards,
- manage application security and deploy custom applications.

Contents

- The content on the learning platform focuses on the features and functionality to design, build and deploy custom applications. The content also provides knowledge to define business logic and process automation declaratively. Furthermore, the design and management of the correct data models and the customization of applications for individual needs is included in this course. Thus, the content of this course enables to automate repetitive tasks and to optimize processes in customer organizations.

Literature
Compulsory Reading
Further Reading ▪ Gupta, R. (2019): Salesforce Platform App Builder Certification. A Practical Study Guide. 1st ed., Apress. ▪ Weinmeister, P. (2019): Practical Salesforce Development Without Code. Building Declarative Solutions on the Salesforce Platform. 2nd ed., Apress, Berkeley. ▪ Shaalan, S. (2020): Salesforce for Beginners. A step-by-step guide to creating, managing, and automating sales and marketing processes. Packt Publishing, Birmingham. ▪ Benioff, M./Langley, M. (2019): Trailblazer. The Power of Business as the Greatest Platform for Change. 1st ed.

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Slides	☑ Guideline
☑ Intensive Live Sessions/Learning Sprint		

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Salesforce Platform Developer

Course Code: DLSFPD02

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

Course Description

The Salesforce platform not only forms the foundation of core Salesforce products like Sales Cloud and Service Cloud, but it is also possible to build own functionalities and own applications. Using the learning platform Trailhead, students will learn how to use the programmatic pillars of the Salesforce platform: Lightning components, Apex and Visualforce. This course prepares students for the Salesforce Platform Developer I Certification.

Course Outcomes

On successful completion, students will be able to

- develop own applications using Apex and basic Lightning components,
- write SOSL, SOQL and DML statements,
- use Visualforce to build custom user interfaces for mobile and web apps,
- build reusable, performant components that follow modern web standards,
- use the built-in testing framework to test Apex and Visualforce.

Contents

- The content on the learning platform focuses on the development of own functionality and own applications, built from various parts of the Salesforce platform. The content enables to use the programmatic elements Lightning components, Apex and Visualforce. Furthermore, knowledge is provided for data modeling, process automation, user interface design, testing and deployment. Thus, the content of this course enables to extend Salesforce by individual applications to cover the needs in customer organizations.

Literature

Compulsory Reading

Further Reading

- Salesforce (2020): Developer Documentation. (URL: https://developer.salesforce.com/docs/ [accessed: 12.12.2020])

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Machine Learning

Module Code: DLBDBEEML

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Kamran Mahmood (Statistical Computing) / Dr. Lino Antoni Giefer (Deep Learning)

Contributing Courses to Module

- Statistical Computing (DLBDBSC01_E)
- Deep Learning (DLBDBDL01_E)

Module Exam Type

Module Exam	Split Exam
	Statistical Computing • Study Format "Distance Learning": Written Assessment: Case Study Deep Learning • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Statistical Computing

- Introduction to Statistical Computing
- Basics of programming with R
- Accessing data
- Descriptive statistics
- Inferential statistics
- Analysis of Variance
- Regression Analysis

Deep Learning

- Introduction
- Introduction to Neural Networks
- Training Neural Networks
- Introduction to Deep Learning Frameworks
- Classification and Optimization
- Multilayer Neural Networks
- Convolutional Neural Networks

Learning Outcomes

Statistical Computing

On successful completion, students will be able to

- classify and define the term statistical computing.
- create a PC working environment for the completion of tasks in the field of statistical computing.
- write simple programs with the R programming language.
- import and export data with R.
- apply different statistical methods with R, from descriptive statistics and inferential statistics to variance and regression analysis.

Deep Learning

On successful completion, students will be able to

- place concepts of deep learning in the context of machine learning and artificial intelligence.
- define different types of regression and explain the implementation of logistic regression with perceptrons.
- explain the structure and function of simple neural networks.
- explain concepts and interrelationships in training of neural networks and to partially implement these concepts.
- differentiate between deep learning frameworks.
- implement, train and optimize neural networks with the help of a Deep Learning Framework
- understand the structure and functioning of Convolutional Neural Networks and train them using a Deep Learning Framework.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the fields of Methods and Data Science & Artificial Intelligence	All Bachelor Programs in the Business & Management and IT & Technology fields

Statistical Computing

Course Code: DLBDBSC01_E

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

Course Description

Statistical computing combines the concepts and methods of statistics with tools from computer science. The results include statistics programs and programming languages that offer many useful functions for the analysis of digitally available data sources. In this course, students are taught the programming language R in order to be able to apply statistical methods (e.g. regression analysis, analysis of variance). In the context of a case study, the acquired skills will be used to extract correlations from complex data sources and to display them graphically.

Course Outcomes

On successful completion, students will be able to

- classify and define the term statistical computing.
- create a PC working environment for the completion of tasks in the field of statistical computing.
- write simple programs with the R programming language.
- import and export data with R.
- apply different statistical methods with R, from descriptive statistics and inferential statistics to variance and regression analysis.

Contents

1. Introduction to Statistical Computing
   - 1.1 Definition and Delimitation
   - 1.2 Statistics Program vs. Statistics Programming Language
   - 1.3 Setting Up the Working Environment

2. Basics of Programming with R
   - 2.1 R as Pocket Calculator
   - 2.2 Assignments and Variables
   - 2.3 Vectors and Matrices
   - 2.4 Logic
   - 2.5 Functions
   - 2.6 Data Types and Data Structures

3. Accessing Data
   - 3.1 Enter Data
   - 3.2 Import and Export of External Files
   - 3.3 Data Management in R

4. Descriptive Statistics
   - 4.1 Univariate Descriptive Statistics
   - 4.2 Bivariate Descriptive Statistics

5. Inferential Statistics
   - 5.1 Distributions
   - 5.2 Samples
   - 5.3 t-Tests

6. Analysis of Variance
   - 6.1 Principles and Delimitation to the t-Test
   - 6.2 One-way Analysis of Variance
   - 6.3 Two-way Analysis of Variance

7. Regression Analysis
   - 7.1 Correlation
   - 7.2 Linear Regression
   - 7.3 Other Models and Procedures

Literature

Compulsory Reading

Further Reading

- Hui, E. (2018): Learn R for Applied Statistics: With Data Visualizations, Regressions, and Statistics. Apress, New York, New York, US.
- Toomey, D. (2017): Jupyter for Data Science. Exploratory analysis, statistical modeling, machine learning, and data visualization with Jupyter. Packt Publishing, Birmingham, UK.
- Wickham, H. and Grolemund, G. (2017): R for Data Science: Import, Tidy, Transform, Visualize, and Model Data. O'Reilly Media, Sebastopol, California, US.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
	☑ Audio	
	☑ Slides	

Deep Learning

Course Code: DLBDBDL01_E

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

Course Description

Owing to recent technological advances, some concepts and methods from artificial intelligence can now be applied in practice. A major concept affected by this progress are neural networks. Thanks to fast and inexpensive GPUs on the one hand and freely available and well-documented frameworks on the other hand, neural networks are used today to solve many different problems, from pattern recognition in text and images to the automated assessment of insurance claims. In this course, students are introduced to the basics of this technology and enabled to apply it using simple examples.

Course Outcomes

On successful completion, students will be able to

- place concepts of deep learning in the context of machine learning and artificial intelligence.
- define different types of regression and explain the implementation of logistic regression with perceptrons.
- explain the structure and function of simple neural networks.
- explain concepts and interrelationships in training of neural networks and to partially implement these concepts.
- differentiate between deep learning frameworks.
- implement, train and optimize neural networks with the help of a Deep Learning Framework
- understand the structure and functioning of Convolutional Neural Networks and train them using a Deep Learning Framework.

Contents

1. Introduction
   - 1.1 AI
   - 1.2 Machine Learning
   - 1.3 Deep Learning
   - 1.4 Deep Learning Frameworks
2. Introduction to Neural Networks
   - 2.1 Linear Regression
   - 2.2 Logistic Regression
   - 2.3 Perceptrons

Literature
Compulsory Reading
Further Reading ▪ Alpaydin, E. (2008): Maschinelles Lernen. Oldenbourg Wissenschaftsverlag, München. ▪ Géron, A. (2017): Praxiseinstieg Machine Learning mit Scikit-Learn und TensorFlow. Konzepte, Tools und Techniken für intelligente Systeme. O'Reilly. ▪ Rashid, T. (2017): Neuronale Netze selbst programmieren. Ein verständlicher Einstieg mit Python. O'Reilly. ▪ Russel, S. (2012): Künstliche Intelligenz – Ein moderner Ansatz. Pearson, Hallbergmoos. ▪ Zhang, Y./Wallace, B. (2016): A Sensitivity Analysis of (and Practitioners' Guide to) Convolutional Neural Networks for Sentence Classification. In: Proceedings of the Eighth International Joint Conference on Natural Language Processing, IJCNLP 2017. Asian Federation of Natural Language Processing Taipei, Taiwan.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Software Engineering - Requirements Engineering and Quality Assurance

Module Code: DLBDBEESEREQA

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Andrew Adjah Sai (Requirements Engineering) / Prof. Dr. Tobias Brückmann (Software Quality Assurance)

Contributing Courses to Module

- Requirements Engineering (DLBCSRE01)
- Software Quality Assurance (DLBCSSQA01)

Module Exam Type

Module Exam	Split Exam
	Requirements Engineering • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes Software Quality Assurance • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Requirements Engineering

- Basics of Requirements Engineering
- Enterprise Modeling
- Requirement Determination Techniques
- Techniques of Requirements Documentation
- Testing and Coordination of Requirements
- Managing Requirements

Software Quality Assurance

- Systematic Quality Assurance of Requirements, Architectures, and Processes
- Systematic Testing of Software
- Dynamic Quality Assurance: Testing
- Static Quality Assurance: Surveying and Measuring
- Constructive Quality Management
- Organization and Planning of Software Quality
- Introduction to Software Quality Assurance

Learning Outcomes

Requirements Engineering

On successful completion, students will be able to

- describe models of enterprise modeling relevant to IT support and have experience in modeling.
- understand techniques and methods for determining requirements of IT systems and be able to distinguish them from each other.
- understand techniques for the documentation of requirements on IT systems and have experience in their use.
- describe techniques for testing, coordinating, and managing the requirements of IT systems and be able to distinguish between them.
- independently select suitable techniques and methods of requirements engineering for given project situations.

Software Quality Assurance

On successful completion, students will be able to

- understand motivation, use cases, and scenarios for aspects of quality management in the software process.
- understand important terms and the basis for the conception and execution of software tests.
- understand techniques and methods for constructive quality management and be able to distinguish them from each other.
- understand techniques and methods for analytical quality management and be able to distinguish them from one another.
- understand the general course of test activities and be able to select suitable methods and techniques for quality assurance for various artefacts and activities in the software process.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Computer Science & Software Development	All Bachelor Programs in the IT & Technology field

Requirements Engineering

Course Code: DLBCSRE01

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

Course Description

The early phases of software development are largely characterized by the fact that functional and technical requirements for the IT system have to be determined. The determination of these requirements must be carried out extremely carefully because all of the following activities in the SW development process are planned and executed on the basis of documented requirements. In this course, procedures, methods, and models are covered, which make it possible to have a structured and methodical determination and documentation of requirements for operational information systems.

Course Outcomes

On successful completion, students will be able to

- describe models of enterprise modeling relevant to IT support and have experience in modeling.
- understand techniques and methods for determining requirements of IT systems and be able to distinguish them from each other.
- understand techniques for the documentation of requirements on IT systems and have experience in their use.
- describe techniques for testing, coordinating, and managing the requirements of IT systems and be able to distinguish between them.
- independently select suitable techniques and methods of requirements engineering for given project situations.

Contents

1. Fundamentals and Terms of Requirements Engineering
   - 1.1 Requirements Engineering in the Software Process
   - 1.2 Core Activities in Requirements Engineering
   - 1.3 What is a Requirement?
2. Determination of Requirements
   - 2.1 Determination of the System Context
   - 2.2 Determination of the Sources of Requirements
   - 2.3 Selection of the Appropriate Investigative Techniques
   - 2.4 Determine Requirements Using Techniques

3. Selected Investigative Techniques
   - 3.1 Creativity Techniques
   - 3.2 Interview Techniques
   - 3.3 Observation Techniques
   - 3.4 Prototyping

4. Documentation of Requirements
   - 4.1 Activities for Documenting Requirements
   - 4.2 Typical Elements of Requirements Documentation
   - 4.3 Forms of Documentation

5. Modeling of Processes
   - 5.1 Basics and Terms
   - 5.2 Modeling with the Business Process Model and Notation
   - 5.3 Modeling with Event Driven Process Chains

6. Modeling of Systems
   - 6.1 Fundamentals of Unified Modeling Language
   - 6.2 UML Use Case Diagram
   - 6.3 UML Activity Diagram
   - 6.4 UML Class Diagram
   - 6.5 UML State Diagram

7. Checking and Reconciling Requirements
   - 7.1 Activities for Checking and Reconciling Requirements
   - 7.2 Test Criteria
   - 7.3 Test Principles
   - 7.4 Testing Techniques
   - 7.5 Coordination of Requirements

8. Management of Prioritization Requirements and Techniques
   - 8.1 Managing Requirements
   - 8.2 Techniques for Prioritizing Requirements

Literature
Compulsory Reading
Further Reading ▪ Dick, J., Hull, E., & Jackson, K. (2017). Requirements engineering (4th ed.). Springer. ▪ Glinz, M., van Loenhoud, H., Staal, S., & Bühne, S. (2020). Handbook for the CPRE foundation level according to the IREB standard: Education and training for certified professional for requirements engineering (CPRE): Foundation level (Version 1.0.0). InternationalRequirements Engineering Board. ▪ Pohl, K., & Rupp, C. (2015). Requirements engineering fundamentals: A study guide for the certified professional for requirements engineering exam: Foundation level—IREB compliant (2nd ed.). Rocky Nook.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Software Quality Assurance

Course Code: DLBCSSQA01

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

Course Description

Quality assurance is one of the accompanying activities of a software process. From the beginning, all created artefacts (documents, models, and program codes) must be quality-assured because the later an error in a system is detected, the more expensive it is to fix it.The course teaches techniques and procedures for accompanying quality assurance, starting with requirements analysis through to specification, architecture and design, and implementation. Even the quality assurance activities must be quality assured so that the software systems can be delivered at a good standard.

Course Outcomes

On successful completion, students will be able to

- understand motivation, use cases, and scenarios for aspects of quality management in the software process.
- understand important terms and the basis for the conception and execution of software tests.
- understand techniques and methods for constructive quality management and be able to distinguish them from each other.
- understand techniques and methods for analytical quality management and be able to distinguish them from one another.
- understand the general course of test activities and be able to select suitable methods and techniques for quality assurance for various artefacts and activities in the software process.

Contents

1. Introduction to Software Quality Assurance
   - 1.1 Motivation and Terms
   - 1.2 Principles of SW Quality Assurance
   - 1.3 Principles in Software Testing
   - 1.4 Cost of Quality
2. Organization and Planning of Software Quality
   - 2.1 Overview of the Quality Management Process
   - 2.2 Quality Planning and Quality Objectives
   - 2.3 Quality Assurance and Quality Improvement

- 2.4 Quality Control

3. Constructive Quality Management
   - 3.1 Overview of Constructive Quality Assurance
   - 3.2 Selected Techniques

4. Static Quality Assurance: Surveying and Measuring
   - 4.1 Application and Overview of Static Processes
   - 4.2 Reviewing with Review Techniques
   - 4.3 Trade Fairs and Metrics
   - 4.4 Static Code Analysis

5. Dynamic Quality Assurance: Testing
   - 5.1 Deployment and an Overview of Dynamic Processes
   - 5.2 Use Case Based Test Case Creation
   - 5.3 Equivalence Class Formation and Limit Value Analysis
   - 5.4 State Based Test Case Creation
   - 5.5 Creation of Random Test Data

6. Systematic Testing of Software
   - 6.1 Methodological Testing Activities
   - 6.2 Component Test (Also: Module Test, Unit Test)
   - 6.3 Integration Tests
   - 6.4 System Tests
   - 6.5 Acceptance Tests

7. Systematic Quality Assurance of Requirements, Architectures, and Processes
   - 7.1 Quality Assurance of Requirements
   - 7.2 Quality Assurance of Architectures
   - 7.3 Quality Assurance of Software Processes

Literature
Compulsory Reading
Further Reading ▪ Mahfuz, A. S. (2021): Software Quality Assurance. Integrating Testing, Security, and Audit. CRC Press, Boca Raton, FL, USA. ▪ Nicolette, D. (2015): Software Development Metrics. Manning Publications, Shelter Island, NY, USA. ▪ Pohl, K.; Rupp, C. (2015): Requirements Engineering Fundamentals. A Study Guide for the Certified Professional for Requirements Engineering Exam. Foundation Level – IREB compliant. 2nd Edition. Rocky Nook, Santa Barbara, CA. ▪ Sommerville, I. (2016): Software Engineering. 10th Edition. Pearson, Harlow, Essex, England. ▪ Walkinshaw, N. (2017): Software Quality Assurance. Consistency in the Face of Complexity and Change. Springer, Cham, Switzerland.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Managing People and Fundamentals of Business Psychology

Module Code: DLBBAEMPFB_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Stefanie Rödel (Introduction to New Work) / Prof. Dr. Stephan de la Rosa (Business Psychology)

Contributing Courses to Module

- Introduction to New Work (DLBNWENW01_E)
- Business Psychology (DLBMPS01_E)

Module Exam Type

Module Exam	Split Exam
	Introduction to New Work • Study Format "Distance Learning": Exam, 90 Minutes (50) • Study Format "myStudies": Exam, 90 Minutes (50) Business Psychology • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Introduction to New Work

- Working world of the future
- Concept development
- New Work as an interdisciplinary approach
- Megatrends
- Effects of agile organization forms
- Leadership and cooperation in New Work
- Empowerment
- Competence development
- General conditions

Business Psychology

- General Theories of Business Psychology
- Psychology of Microeconomic Processes
- Psychology of Macroeconomic Processes
- Psychology of Change
- The Learning Organization

Learning Outcomes

Introduction to New Work

On successful completion, students will be able to

- identify and understand the challenges of technological and societal change.
- transfer the emerging challenges to human resources management and the leadership culture in companies.
- understand the concepts of agile and fluid organizations and the resulting consequences.
- identify solutions for complex environmental factors on leadership and human resources management.

Business Psychology

On successful completion, students will be able to

- describe central economic assumptions and their influencing factors and critically question them in relation to concrete action and decision making.
- discuss important theories in the field of motivation, cognition and interaction and explain their significance for economic tasks and contexts.
- explain fundamental psychological conditioning factors and explanatory models of macroeconomic processes and phenomena and apply them to central economic issues.
- present the importance of work and essential influencing factors from a psychological perspective and derive operational possibilities for shaping work.
- differentiate essential psychological models and concepts for describing and influencing human behavior in organizations and groups.
- assess the possibilities and limits of the targeted development of organizations on the basis of central psychological theories and models and to develop behavioral recommendations.
- discuss basic psychological concepts of the learning organization and design measures for everyday working life.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Human Resources and Psychology	All Bachelor Programmes in the Human Resources and Social Sciences fields

Introduction to New Work

Course Code: DLBNWENW01_E

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

Course Description

More and more companies leave their bureaucratic systems and hierarchical structures behind and adopt an agile style of work. Knowledge is both increasing and outdated at an increasing rate. Autonomy and creativity become of greater importance in more and more companies. Increasingly, processes and departments are set up according to agile principles. Work experiences an increasing dissolution of boundaries with both positive and negative effects. The question of how structures and corporate culture adapt better and faster to shorter innovation cycles and environmental changes affects all companies and their human resources management. It is more important than ever for knowledge and qualifications to be state of the art; consequently continuous learning needs to take a more prominent role in the work place. In the context of social and demographic change, work and organizations are moving further and further away from Taylorism and towards integral, evolutionary organizations whose work is characterized by self-management, a holistic view and meaningful tasks. This is accompanied by a change in orientation, away from bureaucracy towards democratic structures and empowerment. This course provides an introduction to the complex and contemporary theme of the new working world and work structure. Starting with a classification of the topic, we will define social megatrends as essential factors influencing human resource management and organization. Building on this, we will discuss the dipole of rigid and agile organizational structures and the resulting effects on leadership, personnel management and employees. Further, we will look at the concepts of cooperation and leadership during the implementation of new work structures and methods as well as necessary competencies. Competence development addresses how learning, attitudes and abilities are set to interact to provide companies with agile processes. Finally, we will critically reflect upon the new work concept, looking at advantages and disadvantages for those involved, predominantly in the context of legal and social conditions.

Course Outcomes

On successful completion, students will be able to

- identify and understand the challenges of technological and societal change.
- transfer the emerging challenges to human resources management and the leadership culture in companies.
- understand the concepts of agile and fluid organizations and the resulting consequences.
- identify solutions for complex environmental factors on leadership and human resources management.

Contents

Literature

Compulsory Reading

Further Reading

- Bergmann, F. (2019): New Work, New Culture: Work We Want and a Culture That Strengthens Us. Zero Books, Washington, S. 7–19.
- Bernstein, E. et al. (2016): Beyond the Holacracy Hype. Harvard Business Review, Harvard.
- Felin, T./Powell, T. C. (2016): Designing organizations for dynamic capabilities. In: California Management Review, Journal 58, Magazine 4, p. 78–96.
- Frithjof, B. (2019): New work, new culture: work we want and a culture that strengthens us, Winchester, UK ; Washington, USA: Zero Books.
- Haapakangas, A. et al. (2018): Self-rated productivity and employee well-being in activity based offices: the role of environmental perceptions and workspace use. Building and Environment, Heft 145, S. 115–124.
- Siangchokyoo, Nathapon; Klinger, Ryan L. (2022): Shared Leadership and Team Performance: The Joint Effect of Team Dispositional Composition and Collective Identification. In: Group & Organization Management. Feb2022, Vol. 47 Issue 1, p109-140. 32p.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Business Psychology

Course Code: DLBMPS01_E

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

Course Description

Decisions in complex situations do not follow the rules of logic, but are determined by the features of market participants' behavior. In order to better understand this behavior and to make reliable forecasts based on it, economics is recommended to include discoveries in the field of psychology.After an introduction to business psychology and its influencing factors, students are familiarized with the various theories on motivation, cognition and interaction. This course then looks into business psychology at the macro- and microeconomic level. Students learn about the psychological view on the development of countries and societies as well as the psychology of organizations and groups. In addition, the psychology of work in relation to human resources in general and job satisfaction in particular is examined.Students learn about and understand the importance of change in organizations and the principle of the learning organization. The ability to learn faster than the competition is one of the most important competitive factors. Learning organizations promote joint and individual learning and increase employee motivation towards work.

Course Outcomes

On successful completion, students will be able to

- describe central economic assumptions and their influencing factors and critically question them in relation to concrete action and decision making.
- discuss important theories in the field of motivation, cognition and interaction and explain their significance for economic tasks and contexts.
- explain fundamental psychological conditioning factors and explanatory models of macroeconomic processes and phenomena and apply them to central economic issues.
- present the importance of work and essential influencing factors from a psychological perspective and derive operational possibilities for shaping work.
- differentiate essential psychological models and concepts for describing and influencing human behavior in organizations and groups.
- assess the possibilities and limits of the targeted development of organizations on the basis of central psychological theories and models and to develop behavioral recommendations.
- discuss basic psychological concepts of the learning organization and design measures for everyday working life.

Contents

1. Business Psychology

- 1.1 Business Psychology
- 1.2 Human Behavior in the Economy

2. Fundamental Processes of Economic Behavior
   - 2.1 Perception and Processing of Information
   - 2.2 The Senses
   - 2.3 Emotions
   - 2.4 Decision-Making Theories and Decision Anomalies

3. Theories of Business Psychology
   - 3.1 Motivational Theories
   - 3.2 Theories in the Field of Cognition
   - 3.3 Theories in the Field of Interaction

4. Psychology of Microeconomic Processes I
   - 4.1 Psychology of Work Design
   - 4.2 Psychology of Job Satisfaction
   - 4.3 Psychology of Workload

5. Psychology of Microeconomic Processes II
   - 5.1 Communication Psychology
   - 5.2 Groups
   - 5.3 Conflicts
   - 5.4 Leadership

6. Psychology of Macroeconomic Processes
   - 6.1 Classical Economics
   - 6.2 Keynesian Economics
   - 6.3 Behavioral Economics
   - 6.4 Propsect Theory
   - 6.5 Nudge Theory

7. Psychology of Change
   - 7.1 Organizational Change
   - 7.2 Lewin's Change Model
   - 7.3 Transtheoretical Model of Change (TTM)
   - 7.4 Social Cognitive Theory
   - 7.5 Self-Determination Theory

8. The Future of Work
   - 8.1 A Changing Workplace
   - 8.2 Artificial Intelligence (AI)
   - 8.3 Virtual Reality (VR)

Literature

Compulsory Reading

Further Reading

- Cascio, W. F. & Aguinis, H. (2019): Applied Psychology in Talent Management 8th Edition. SAGE Publication, London PQ.
- Church, A. H., Bracken, D. W., Fleenor, J. W. & Rose, D. S. (2019): Handbook of Strategic 360. Feedback. Oxford University Press, New York.
- Highhouse, S., Doverspike, D. & Guion, R. M. (2016): Essentials of Personnel Assessment and Selection (Essentials of Industrial and Organizational Psychology) (2nd Edition). Routledge, New York.
- Paschen, M & Dihsmaier, E. (2014): The Psychology of Human Leadership: How To Develop Charisma and Authority. Springer, Heidelberg.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Entrepreneurship, Innovation, and Financing

Module Code: DLBDBEEEIF-01

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Diana Murtgah-Böhm (Entrepreneurship and Innovation) / Prof. Dr. Lena Berndorfer (Start-Up Financing)

Contributing Courses to Module

- Entrepreneurship and Innovation (DLBBAEI01-01_E)
- Start-Up Financing (DLBEPGF01_E)

Module Exam Type

Module Exam	Split Exam
	Entrepreneurship and Innovation • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Start-Up Financing • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Entrepreneurship and Innovation

- Entrepreneurship
- The Entrepreneur
- The Entrepreneurial Process
- Innovation
- Planning, Business Models and Strategy

Start-Up Financing

- Importance of Startup Financing
- Financing Through Equity Capital
- Financing Through Debt Capital
- Financing Through Mezzanine Capital
- Other Possibilities of the Startup Financing
- Financing vs. Liquidity Management
- Investor Relations

Learning Outcomes

Entrepreneurship and Innovation

On successful completion, students will be able to

- understand the core principles of entrepreneurship.
- define the main characteristics of entrepreneurs as well as their motivations and their behavior.
- describe the entrepreneurial process with its different stages.
- recognize problems and negative side effects of entrepreneurship.
- define innovation and explain the innovation lifecycle.
- understand a business plan and what defines a business model.

Start-Up Financing

On successful completion, students will be able to

- explain the importance of startup financing.
- understand the individual types of equity and debt financing as well as mezzanine financing and to assess them with regard to their suitability for a startup project.
- understand the importance of liquidity management in the context of startup financing.
- assess to what extent investor relations in the context of startup financing is important.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Business Administration & Management and Finance & Tax Accounting	All Bachelor Programs in the Business field

Entrepreneurship and Innovation

Course Code: DLBBAEI01-01_E

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

Course Description

Entrepreneurship and innovation are the basis and one of the driving forces of every economy. Entrepreneurship and innovation are of great importance in every phase of the economic development cycle. They are important drivers for competition, competitiveness and survival in globalized markets. In this module, students are familiarized with the ideas, motives and concepts of entrepreneurship. They also get an overview of the identification, evaluation and further development of innovations.

Course Outcomes

On successful completion, students will be able to

- understand the core principles of entrepreneurship.
- define the main characteristics of entrepreneurs as well as their motivations and their behavior.
- describe the entrepreneurial process with its different stages.
- recognize problems and negative side effects of entrepreneurship.
- define innovation and explain the innovation lifecycle.
- understand a business plan and what defines a business model.

Contents

1. Entrepreneurship
   - 1.1 Defining Entrepreneurship
   - 1.2 Benefits of Entrepreneurial Activity
   - 1.3 Types of Entrepreneurs
   - 1.4 Global Trends in Entrepreneurship
2. The Entrepreneur
   - 2.1 Defining Entrepreneur
   - 2.2 Characteristics of Entrepreneurs
   - 2.3 Entrepreneurial Motivation and Behavior
3. The Entrepreneurial Process
   - 3.1 Stages of the Entrepreneurial Process

3.2 Venture Creation
3.3 Creativity Management and Time Pressure

4. Innovation
4.1 Defining Innovation
4.2 Innovation Lifecycle
4.3 Sources of Innovation
4.4 Encouraging Entrepreneurship and Innovation

5. Planning, Business Models and Strategy
5.1 Business Plan
5.2 Designing a Business Model
5.3 Developing a Business Strategy

Literature

Compulsory Reading

Further Reading

- Bessant, J., & Tidd, J. (2015). Innovation and entrepreneurship. Wiley.
- Parker, S. C. (2018). The economics of entrepreneurship (2nd ed.). Cambridge University Press.
- Scarborough, N., & Cornwall, J. (2018). Essentials of entrepreneurship and small business management (Global ed.). Pearson Education.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods

Tutorial Support	Learning Material	Exam Preparation
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Slides	

Start-Up Financing

Course Code: DLBEPGF01_E

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

Course Description

In the context of each business startup the question of financing arises. Only if the founders have sufficient financial means at their disposal, they can put their plans into practice. Over the years, a multitude of financing options for startupshas been established. In addition to equity capital, debt capital or mezzanine capital can be used. All these types of capital are different in structure and are suitable for different types of startup projects. Moreover, there is also the possibility of taking advantage of public subsidies or newer types of financing such as crowdfunding or crypto currencies. Although not every type of financing is suitable for every founder, it is nevertheless important for a founder of a new business to know his possibilities and to be able to decide what options to use. In addition, financing has a considerable impact on the liquidity management of a startup company as well as on investor relations.

Course Outcomes

On successful completion, students will be able to

- explain the importance of startup financing.
- understand the individual types of equity and debt financing as well as mezzanine financing and to assess them with regard to their suitability for a startup project.
- understand the importance of liquidity management in the context of startup financing.
- assess to what extent investor relations in the context of startup financing is important.

Contents

1. Importance of Start-Up Financing
   - 1.1 Business Start-Ups
   - 1.2 Corporate Financing
   - 1.3 Start-Up Financing
2. Financing through Equity Capital
   - 2.1 What is Equity Capital?
   - 2.2 Personal Financial Resources
   - 2.3 Informal and Formal Equity Capital
3. Financing through Debt Capital
   - 3.1 What is Debt Capital?

- 3.2 Loans with Cash Flow
- 3.3 Loans without Cash Flow
- 3.4 Credit Substitutes

4. Financing through Mezzanine Capital
   - 4.1 What is Mezzanine Capital?
   - 4.2 Types of Mezzanine Capital

5. Further Financing Options
   - 5.1 Crowdfunding
   - 5.2 Initial Coin Offering (ICO)

6. Financing versus Liquidity Management
   - 6.1 Basic Principles of Finance
   - 6.2 Liquidity Management

7. Investor Relations
   - 7.1 Communication and Cooperation with Investors
   - 7.2 Reporting to Capital Providers

Literature

Compulsory Reading

Further Reading

- Alemany, L./Andreoli, J.J. (2018): Entrepreneurial Finance. The Art and Science of Growing Ventures. Cambridge University Press, Cambridge.
- Rogers, S./Makonnen, R. (2020): Entrepreneurial Finance. Finance and Business Strategies for the Serious Entrepreneur. 4th ed., McGraw-Hill, New York.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

IT Service Management

Module Code: IWSM-02_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Dr. Rachel John Robinson (IT Service Management) / Dr. Frank Müller (Project: IT Service Management)

Contributing Courses to Module

- IT Service Management (DLBCSITSM01-02)
- Project: IT Service Management (DLBCSPITSM01)

Module Exam Type

Module Exam	Split Exam
	IT Service Management • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Project: IT Service Management • Study Format "Distance Learning": Written Assessment: Project Report • Study Format "myStudies": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

IT Service Management

- IT Service Management Basics and Terms
- ITIL 4 - Basics and Four Dimensions
- ITIL 4 - Service Value System
- ITIL 4 - Principles
- ITIL 4 - Practices
- Information Security Management

Project: IT Service Management

Analysis, evaluation, and development of recommendations for taking action within the scope of concrete questions concerning aspects of IT Service Management. This is aided by the creation and planning of a project in the theoretical-theme context through all phases of project management. The quality assurance of the artefacts created is carried out both by the tutor and by students from the project groups.

Learning Outcomes

IT Service Management

On successful completion, students will be able to

- identify the fundamentals and challenges of IT service management.
- describe the motivation and structure of the IT Infrastructure Library (ITIL), distinguish four dimensions, apply the service value system and identify concrete practices.
- describe and apply fundamentals of IT security management.

Project: IT Service Management

On successful completion, students will be able to

- analyze typical problems and company situations from the area of IT service management in different project variations.
- develop, plan, and implement proposed solutions.
- convert theory into a pragmatic approach to a solution with the help of methodical tools from IT service management and project management.
- draw and apply the right conclusions in relation to their specific project environment.
- conceptually apply their theoretical knowledge to company-specific environmental factors.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Data Science & Artificial Intelligence	All Bachelor Programmes in the IT & Technology fields

IT Service Management

Course Code: DLBCSITSM01-02

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

Course Description

IT service management is an approach to align and understand a company's IT as a service provider and supporter of operational and business processes. This course uses the IT Infrastructure Library (ITIL) to teach concepts, procedures and best practices in the area of IT service management (IT operations). In other words, it looks at the management of activities that take place after an IT system has been developed: IT operations as a continuous run of the productive day-to-day business of a company's IT departments.

Course Outcomes

On successful completion, students will be able to

- identify the fundamentals and challenges of IT service management.
- describe the motivation and structure of the IT Infrastructure Library (ITIL), distinguish four dimensions, apply the service value system and identify concrete practices.
- describe and apply fundamentals of IT security management.

Contents

1. IT Service Management Basics and Terms
   - 1.1 IT Services
   - 1.2 IT Service Management
   - 1.3 ITSM Frameworks
2. ITIL 4 - Basics and Four Dimensions
   - 2.1 Stakeholders, Services and Service Management
   - 2.2 Value Contribution of IT
3. ITIL 4 - Service Value System
   - 3.1 Basics and Overview
   - 3.2 Inputs, Outcome and Governance
   - 3.3 The Service Value Chain
   - 3.4 Continual Improvement
4. ITIL 4 - Principles

4.1 Overview
4.2 Value Orientation
4.3 Iterative Procedure and Feedback
4.4 Establish Collaboration and Visibility
4.5 Optimize and Automate

5. ITIL 4 - Practices
5.1 Overview
5.2 General Management Practices
5.3 Service Management Practices
5.4 Technical Practices

6. Information Security Management
6.1 Information Security Basics
6.2 Standards, Best Practices and Legal Requirements
6.3 Information Security Management with ISO/IEC 27001

Literature

Compulsory Reading

Further Reading

- Agutter, C. (2019). ITIL® foundation essentials ITIL 4 edition: The ultimate revision guide. ITGovernance Publishing.
- Axelos Limited. (2019). ITIL 4 foundation: ITIL 4 edition. The Stationery Office.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Project: IT Service Management

Course Code: DLBCSPITSM01

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

Course Description

Based on the contents of the course “IT Service Management”, selected aspects of the core processes of ITIL are deepened, discussed, selected, and applied within the framework of a project in a concept-related manner. All theoretical methods are considered and evaluated.

Course Outcomes

On successful completion, students will be able to

- analyze typical problems and company situations from the area of IT service management in different project variations.
- develop, plan, and implement proposed solutions.
- convert theory into a pragmatic approach to a solution with the help of methodical tools from IT service management and project management.
- draw and apply the right conclusions in relation to their specific project environment.
- conceptually apply their theoretical knowledge to company-specific environmental factors.

Contents

- Analysis, evaluation, and development of recommendations for taking action within the scope of concrete questions concerning aspects of IT Service Management. This is aided by the creation and planning of a project in the theoretical-theme context through all phases of project management.
- The quality assurance of the artefacts created is carried out both by the tutor and by students from the project groups.

Literature

Compulsory Reading

Further Reading

- Al-Ashmoery, Y., Haider, H., Haider, A., Nasser, N., & Al-Sarem, M. (2021). Impact of IT Service Management and ITIL Framework on the Businesses. 2021 International Conference of Modern Trends in Information and Communication Technology Industry (MTICTI), Modern Trends in Information and Communication Technology Industry (MTICTI), 2021 International Conference Of, 1–5.
- Limited, A. (2020). ITIL 4. Create, Deliver and Support. TSO.
- Limited, A. (2020). ITIL 4: Direct, Plan and Improve. TSO.
- Limited, A. (2019). ITIL foundation: ITIL (4th edition). The Stationery Office Ltd.
- Shastri, A., & Thampi, G. T. (2021). Automation of IT Service Management Processes. 2021 International Conference on Advances in Computing, Communication, and Control (ICAC3), Advances in Computing, Communication, and Control (ICAC3), 2021 International Conference On, 1–4.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Object-oriented Programing

Module Code: IOBP_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Damir Ismailovic (Object-oriented Programming with Java) / Prof. Dr. Damir Ismailovic (Data Structures and Java Class Library)

Contributing Courses to Module

- Object-oriented Programming with Java (DLBCSOOPJ01)
- Data Structures and Java Class Library (DLBCSDSJCL01)

Module Exam Type

Module Exam	Split Exam
	Object-oriented Programming with Java • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes Data Structures and Java Class Library • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Object-oriented Programming with Java

- Introduction to the Java language
- Java language constructs
- Introduction to object-oriented system developement
- Inheritance
- Object-oriented concepts
- Exception handling
- Interfaces

Data Structures and Java Class Library

- Programming style
- Working with objects
- External packages and libraries
- Data structures
- Strings and calendar
- File system and data streams

Learning Outcomes

Object-oriented Programming with Java

On successful completion, students will be able to

- describe the basic concepts of object-oriented modeling and programming, distinguishing them from one another.
- describe the basic concepts and elements of the Java programming language and have some experience in their use.
- independently create Java programs to solve concrete problems.

Data Structures and Java Class Library

On successful completion, students will be able to

- understand typical data structures and distinguish them from each other.
- independently create solutions in the Java programming language using the data structures.
- understand scenarios and strategies for comparing objects and implement them in Java.
- describe the possible uses and functions of character strings and calendar objects in Java and have experience using them.
- describe the possible uses and functions of streams in Java and have experience using them.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Computer Science & Software Development	All Bachelor Programmes in the IT & Technology fields

Object-oriented Programming with Java

Course Code: DLBCSOOPJ01

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

Course Description

Operational information systems are usually planned and programmed to be object-oriented. Therefore, this course teaches the basic skills of object-oriented programming. Theoretical concepts are presented and practiced directly with the programming language Java.

Course Outcomes

On successful completion, students will be able to

- describe the basic concepts of object-oriented modeling and programming, distinguishing them from one another.
- describe the basic concepts and elements of the Java programming language and have some experience in their use.
- independently create Java programs to solve concrete problems.

Contents

1. Introduction to Object-Oriented System Development
   - 1.1 Object Orientation as a Way of Looking at Complex Systems
   - 1.2 The Object as a Basic Concept of Object Orientation
   - 1.3 Phases in the Object-Oriented Development Process
   - 1.4 Basic Principle of Object-Oriented System Development
2. Introduction to Object-Oriented Modeling
   - 2.1 Structuring Problems With Classes
   - 2.2 Identifying Classes
   - 2.3 Attributes as Properties of Classes
   - 2.4 Methods as Functions of Classes
   - 2.5 Associations between Classes
   - 2.6 Unified Modeling Language (UML)
3. Programming Classes in Java
   - 3.1 Introduction to the Java Programming Language
   - 3.2 Basic Elements of a Class in Java
   - 3.3 Attributes in Java

Literature
Compulsory Reading
Further Reading

- Freeman, E., Robson, E., Bates, B., & Sierra, K. (2014). Head first design patterns (A brain friendly guide). O'Reilly Media.
- Gamma, E., Helm, R., Johnson, R., & Vlissides, J. (1995). Design patterns: Elements of re-usable object-oriented software. Addison-Wesley.
- Liang, Y. D. (2018). Introduction to Java programming and data structures. Pearson Education.
- Liguiori, L. & Liguori, P. (2008). Java pocket guide: Instant help for Java. O'Reilly Media.
- Oracle (2017). The Java tutorials. Available online.
- Samoylov, N. (2019). Learn Java 12 programming: A step-by-step guide to learning essential concepts in Java SE 10, 11, and 12. Packt Publishing.
- Weisfeld M. (2019). The object-oriented thought process (5th ed.). Addison-Wesley.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Data Structures and Java Class Library

Course Code: DLBCSDSJCL01

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

Course Description

Based on the contents of the course "Basics of object-oriented programming with Java", this course deepens the knowledge of object-oriented programming. In particular, data structures, their use cases, and their implementation in the Java language are considered. In addition, strategies and scenarios of object comparisons, the use of functions of the "String" data type, the use of calendar objects, and the use of streams are taught.

Course Outcomes

On successful completion, students will be able to

- understand typical data structures and distinguish them from each other.
- independently create solutions in the Java programming language using the data structures.
- understand scenarios and strategies for comparing objects and implement them in Java.
- describe the possible uses and functions of character strings and calendar objects in Java and have experience using them.
- describe the possible uses and functions of streams in Java and have experience using them.

Contents

1. Programming Style
   - 1.1 Code Documentation
   - 1.2 Code Annotations
   - 1.3 Code Conventions
2. Working with Objects
   - 2.1 String Representation of Objects
   - 2.2 Compare with ==
   - 2.3 Compare with Equals()
   - 2.4 Compare by HashCode()
   - 2.5 CompareTo()
   - 2.6 Cloning Objects
3. External Packages and Libraries
   - 3.1 Importing Packages

3.2 The Java Class Library

4. Data Structures
   - 4.1 Arrays
   - 4.2 Collections
   - 4.3 Working with Collections
   - 4.4 Lists
   - 4.5 Quantities (Sets)
   - 4.6 Associative Memory (Maps)
   - 4.7 Stacks (Basement)
   - 4.8 Queues (Snakes)

5. Strings and Calendar
   - 5.1 Strings
   - 5.2 StringBuffer
   - 5.3 Splitting Character Strings
   - 5.4 Date and time
   - 5.5 Calendar

6. File System and Data Streams
   - 6.1 Working with the File System
   - 6.2 Working with Files

Literature

Compulsory Reading

Further Reading

- Bloch, J. (2017). Effective Java (3rd ed.). Addison-Wesley.
- Oracle. (2018a). Java platform standard edition 10 API specification. (Available online).
- Oracle. (2018b). String (Java platform SE 10). (Available online).
- Oracle. (2018c). Date (Java platform SE 10). (Available online).
- Oracle. (2018d). java.io (Java platform SE 10). (Available online).
- Oracle. (2019). The Java language specification: Java SE 11 edition. (Available online).
- Seidl, M. (2015). UML@Classroom: An introduction to object-oriented modeling. Springer.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

6. Semester

Search Engine Marketing

Module Code: DLBECWSEM_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Jonas Polfuß (Search Engine Optimization - SEO) / N.N. (Search Engine Advertising - SEA)

Contributing Courses to Module

- Search Engine Optimization - SEO (DLBECSEO01_E)
- Search Engine Advertising - SEA (DLBECSEA01_E)

Module Exam Type

Module Exam	Split Exam
	Search Engine Optimization - SEO • Study Format "Distance Learning": Written Assessment: Case Study Search Engine Advertising - SEA • Study Format "Distance Learning": Written Assessment: Case Study

Weight of Module

see curriculum

Module Contents

Search Engine Optimization - SEO

- Instruments and Measures of Onpage Optimization
- Instruments and measures of Offpage Optimization
- Monitoring and Controlling

Search Engine Advertising - SEA

- Basics of Search Engine Advertising (SEA)
- Google Ads Introduction and Keyword Search
- Evaluation and Optimization of Ads Campaigns
- SEA Tools and SEA Software

Learning Outcomes

Search Engine Optimization - SEO

On successful completion, students will be able to

- recognize the relevance of search engine optimization for a wide variety of business models.
- identify starting points for a convincing search engine optimization.
- optimize one's web presence for search engines by applying appropriate on-page and off-page optimization measures.
- identify "unauthorized" search engine optimization measures.

Search Engine Advertising - SEA

On successful completion, students will be able to

- differentiate between SEO and SEA, classify SEA in the online marketing mix and explain the advantages as well as disadvantages of the channel.
- define goals for search engine advertising.
- design the process of search engine advertising.
- create keyword lists that match search queries.
- set up campaigns in Google Ads and manage and optimize them for success.
- analyze search engine advertising successes.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Online & Social Media Marketing	All Bachelor Programs in the Marketing & Communication fields

Search Engine Optimization - SEO

Course Code: DLBECSEO01_E

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

Course Description

The term "search engine optimization", or SEO for short, refers to all activities that lead to the company's own online offerings (i.e. the content of a website that is placed online) achieving a better ranking in the organic or editorial hit lists of the search engines. This is achieved through so-called on-page and off-page optimization and constant monitoring. On-page optimization includes all measures taken on the company's own website, such as technical, content-related and structural measures. Off-page optimization includes measures taken outside the company's own web presence. The course provides the necessary basic knowledge of how the site to be managed can be optimized in terms of On- and Off-page monitoring using appropriate software. The aim of the course is to enable students to better position websites in search engines - especially Google.

Course Outcomes

On successful completion, students will be able to

- recognize the relevance of search engine optimization for a wide variety of business models.
- identify starting points for a convincing search engine optimization.
- optimize one's web presence for search engines by applying appropriate on-page and off-page optimization measures.
- identify "unauthorized" search engine optimization measures.

Contents

1. Basics of Search Engine Optimization
   - 1.1 Definition of Terms & Subject of Search Engine Marketing
   - 1.2 Search Engine Marketing in Transition
   - 1.3 SEO Tools and SEO Software

2. Keyword Research
   - 2.1 Basics
   - 2.2 Keyword Strategy: Short Tail and Long Tail
   - 2.3 Steps of a Keyword Research
   - 2.4 Keyword Databases
   - 2.5 Keywords: Types and Properties, Mapping
   - 2.6 Keyword Potential Analysis

3. On-Site Search Engine Optimization
   - 3.1 Basics
   - 3.2 Content Aspects - Content is King!
   - 3.3 Structural Aspects
   - 3.4 Technical Aspects

4. Off-Site Search Engine Optimization
   - 4.1 Basics
   - 4.2 Link Building: Link Building Methodologies
   - 4.3 Back Linking: Audit and Cleanup
   - 4.4 Link Purchase
   - 4.5 Web Catalogs, Web Directories, Weblogs, Satellite Domains, Web 2.0
   - 4.6 Penalties and Link Removal

5. SEO Special Topics
   - 5.1 Google and Universal Search
   - 5.2 International SEO
   - 5.3 Local SEO
   - 5.4 Website Relaunch
   - 5.5 Social Media

6. Monitoring, Controlling and Tracking
   - 6.1 Basics
   - 6.2 Success Criteria
   - 6.3 Google Analytics

Literature

Compulsory Reading

Further Reading

- Allan, H. J. (2021). Introducing to SEO. Understand How to Leverage Search Engine Optimization for Internet Marketing Strategies. Independently published. (SEO Secrets, Band 1).
- Enge, E., Spencer, S., Stricchiola, J. C. (2015). The Art of SEO. Mastering Search Engine Optimization (3rd ed.). O'Reilly.
- Kelsey, T. (2017). Introduction to Search Engine Optimization. A Guide for Absolute Beginners. Apress.
- Moll, B. (2021). SEO 2022. The Ultimate Guide to Search Engine Optimization in 2022 for Beginners and Advanced. Independently Published.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Search Engine Advertising - SEA

Course Code: DLBECSEA01_E

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

Course Description

SEA is also referred to as search engine advertising, keyword advertising or sponsored links and stands for the placement of (text) ads in search engines such as Google, Yandex, Baidu, Oath (Yahoo) and Bing. Advertising in search engines has established itself as one of the most important measures in online marketing. Above all, placing ads on Google's search results page and on the websites of Google partners (affiliates) is an excellent means of directing prospective customers to a website or online store in a targeted manner, i.e. without major wastage. In this course, students will learn how search engine advertising works, how to design successful ads and how to place them on Google. They will also learn which key figures are relevant for search engine advertising, how to measure the success of a campaign and how to optimize it. Using a given case study, students will apply what they have learned directly in Google Ads and measure their success in Google Analytics. In addition, the course optimally prepares students for the test to obtain the Google Ads certificate.

Course Outcomes

On successful completion, students will be able to

- differentiate between SEO and SEA, classify SEA in the online marketing mix and explain the advantages as well as disadvantages of the channel.
- define goals for search engine advertising.
- design the process of search engine advertising.
- create keyword lists that match search queries.
- set up campaigns in Google Ads and manage and optimize them for success.
- analyze search engine advertising successes.

Contents

1. Basics of Search Engine Advertising (SEA)
    - 1.1 Definition, Operating Principle, Significance, Advantages, Legal Aspects
    - 1.2 Provider Structure in Germany
2. Google Ads
    - 2.1 Entry and Basics
    - 2.2 Structural Aspects
    - 2.3 Technical Aspects

2.4 Costs and the Quality Factor
2.5 Determine Matching Keywords to Ads
2.6 Landing Pages: Turning Visitors Into Customers

3. Campaign Evaluation and Optimization
   3.1 Campaign Statistics and Report Queries
   3.2 Conversions, ROI and Maximum Profit
   3.3 Search Funnel and Conversion Path

4. Internal and External Tools and Software
   4.1 ACE Tests, Automated Rules
   4.2 Web Analytics and Google Analytics
   4.3 Landing Page and Conversion Optimization
   4.4 SEA Software

5. Display Advertising Network
   5.1 Successful Strategies and Optimizations
   5.2 Alignment Options and Advanced Settings
   5.3 Remarketing and Interest-Based Campaigns

6. Ad Extensions
   6.1 Sitelinks, Merchant Center, Product Extensions
   6.2 Local Ads, Google Places, ROPO
   6.3 Mobile Ads, Click-to-Call, AdMob

Literature

Compulsory Reading

Further Reading

- Chaffey, D., & Ellis-Chadwick, F. (2019). Digital Marketing [Electronic Resource]: (Seventh Edition). Pearson.
- Imtiazi, Hassan (2021). Google Ads (AdWords), in Plain English: Learn PPC- Digital Marketing on Google Ads (AdWords), Display Network & YouTube (First Edition). AIDA Digital Ltd. UK.
- Maya, Laura (2020). Google Ads Mastery Guide (First Edition). Publisher s21598.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
☑ Recorded Live Sessions		

Conflict Management and Coaching

Module Code: DLBDBEECMC

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Hendrik Fenz (Conflict Management and Mediation) / N.N. (Systemic Counseling and Coaching)

Contributing Courses to Module

- Conflict Management and Mediation (DLBWPKUM01_E)
- Systemic Counseling and Coaching (DLBPGWBUC01_E)

Module Exam Type

Module Exam	Split Exam
	Conflict Management and Mediation • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes Systemic Counseling and Coaching • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Conflict Management and Mediation

- Forms of Cooperation
- Basic Concepts of Conflict Research
- Conflict Management
- Basics of Communication Psychology
- Conducting Discussions and Moderation
- Mediation

Systemic Counseling and Coaching

- Theoretical Foundations of Counseling as a Form of Pedagogical Action
- Basic Theories Behind Systemic Counseling
- Systemic Coaching as a Special Type of Counseling
- Fields of Application, Occasions and Target Groups of Systemic Counseling
- Overview of the Basic Repertoire of Relevant Methods and Interventions
- Consultant Skills and Knowledge

Learning Outcomes

Conflict Management and Mediation

On successful completion, students will be able to

- explain the central characteristics of conflicts and reflect, analyze and assess their progression.
- analyze conflicts according to the degree of their escalation.
- explain how conflicts arise and how to avoid them.
- understand conflicts and negotiations as a process and plan and implement the necessary measures to solve them.
- use special conversation and question techniques.
- identify hidden messages in communication and develop suggestions for optimization.
- develop goals and strategies for conflict and negotiation management in order to contribute to successful conflict management and negotiation with a clear procedure.
- assess and apply mediation as a method of conflict resolution.

Systemic Counseling and Coaching

On successful completion, students will be able to

- theoretically locate counseling within pedagogical and non-pedagogical contexts and to be sensitive to existing areas of conflict.
- reproduce relevant theoretical foundations of systemic counseling for their context of action.
- know fields of application, occasions for counseling, target groups, and settings.
- understand the limits of systemic counseling compared to other forms of counseling from other disciplines and to assess them in the context of counseling.
- carry out initial forms of intervention of systemic coaching independently or under guidance.
- reflect on their own personality including their own competences with regard to the requirements for systemic consultants (coaches).

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Psychology	All Bachelor Programs in the Social Sciences field

Conflict Management and Mediation

Course Code: DLBWPKUM01_E

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

Course Description

In the business world, different perspectives of negotiating partners or parties often clash. This often leads to conflicts because the parties involved pursue different goals and evaluate situations differently. Especially against the background of transformation and restructuring processes in companies, conflicts are often pre-programmed due to different interests. To ensure that the different perspectives of the parties involved do not conclude in escalation, knowledge of the nature and structure of conflicts, techniques for dealing with them and basic knowledge of the possibilities of successful communication at a verbal and non-verbal level are essential. This course will equip students with the necessary understanding and present necessary tools to recognize conflicts, to solve them and to lead negotiations. In this context, mediation is highlighted as an increasingly popular method of conflict resolution.

Course Outcomes

On successful completion, students will be able to

- explain the central characteristics of conflicts and reflect, analyze and assess their progression.
- analyze conflicts according to the degree of their escalation.
- explain how conflicts arise and how to avoid them.
- understand conflicts and negotiations as a process and plan and implement the necessary measures to solve them.
- use special conversation and question techniques.
- identify hidden messages in communication and develop suggestions for optimization.
- develop goals and strategies for conflict and negotiation management in order to contribute to successful conflict management and negotiation with a clear procedure.
- assess and apply mediation as a method of conflict resolution.

Contents

1. From Cooperation to Confrontation
    - 1.1 Cooperation and Competition
    - 1.2 Forms of Cooperation
    - 1.3 Game Theoretical Approaches
    - 1.4 The Way into the Conflict

Literature
Compulsory Reading
Further Reading ▪ Coltri, L. (2020). Alternative dispute resolution (2nd ed.). McGraw Hill. ▪ Fisher, R., Ury, W., & Patton, B. (2011). Getting to yes: Negotiating agreement without giving in (3rd ed.). Penguin Books. ▪ Rosenberg, M. B. (2015). Nonviolent communication - A language of life: Life-changing tools for healthy relationships (3rd ed.). PuddleDancer Press.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format myStudies

Study Format	**Course Type**
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Systemic Counseling and Coaching

Course Code: DLBPGWBUC01_E

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

Course Description

Counseling as one of the core pedagogical forms of action is gaining relevance in all areas of application in the current industrial age. Systemic approaches to counseling should be emphasized, as they usually differ from purely professional counseling and pursue a holistic process counseling approach in which the learning and developing person is the focus. The course offers a first overview of systemic counseling and systemic coaching starting with theoretical basics, fields of application up to requirements for consultants. The contents enable the students to situate counseling theoretically as well as to acquire theoretical concepts which are essential for a systemic counseling approach. These include systems theory and constructivism. In addition, areas of conflict and boundaries are addressed, which should enable the consultant to distinguish himself in his practical work. Furthermore, the students deal with the distinction between process and professional counseling, different forms and settings of counseling, as well as possible target groups and fields of application. Systemic coaching as a special form of counseling is considered separately, in particular the role of the coach, occasions and topics as well as the phase model of the coaching process.In addition, students get to know initial methods and forms of intervention, such as systemic questioning techniques, formation of hypotheses or reframing.Finally, students are given the opportunity to deal with the requirements for consultants and coaches and thus have the opportunity to reflect these in relation to their own personality. The course is rounded off by dealing with a basic systemic mindset as well as a coach's understanding of values.

Course Outcomes

On successful completion, students will be able to

- theoretically locate counseling within pedagogical and non-pedagogical contexts and to be sensitive to existing areas of conflict.
- reproduce relevant theoretical foundations of systemic counseling for their context of action.
- know fields of application, occasions for counseling, target groups, and settings.
- understand the limits of systemic counseling compared to other forms of counseling from other disciplines and to assess them in the context of counseling.
- carry out initial forms of intervention of systemic coaching independently or under guidance.
- reflect on their own personality including their own competences with regard to the requirements for systemic consultants (coaches).

Contents

1. Theoretical Foundations

- 1.1 Counseling as a Form of Pedagogical Action
- 1.2 Areas of Conflict in Educational Counseling
- 1.3 Person-Centered Systems Theory
- 1.4 Cybernetics
- 1.5 Constructivism
- 1.6 Social Systems Theory
- 1.7 Autopoietic Systems Theory

2. Systemic Counseling
   - 2.1 Forms and Settings of Counseling in Pedagogy
   - 2.2 Target Groups
   - 2.3 Process Counseling Versus Specialist Counseling
   - 2.4 Basic Assumptions

3. Systemic Coaching
   - 3.1 Coaching as a Special Form of Counseling
   - 3.2 The Role of the Coach
   - 3.3 Occasions and Topics
   - 3.4 Coaching Phases

4. Application Errors
   - 4.1 Limits of Counseling and Coaching
   - 4.2 Children and Teenagers
   - 4.3 Adults and Organizational Context
   - 4.4 Other Fields (Sports, Science, Private Context, Etc.)

5. Basic Methods and Interventions
   - 5.1 Conversation Techniques
   - 5.2 Active Listening
   - 5.3 Systemic Questioning
   - 5.4 Hypothesizing
   - 5.5 Reframing

6. Requirements for the Consultant
   - 6.1 Expertise
   - 6.2 Social Skills
   - 6.3 Process Skills
   - 6.4 Mindset and Values

Literature
Compulsory Reading
Further Reading ▪ Hills, J. (2012). Introduction to systemic and family therapy: A User's Guide. Palgrave Macmillan. ▪ von Foerster, H. (2003). Understanding Understanding: Essays on Cybernetics and Cognition. Springer Science & Business Media. ▪ Campbell, D., Draper, R., & Huffington, C. (Eds.). (2018). A systemic approach to consultation. Routledge.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Market Research and Media

Module Code: DLBCEMEMRM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Susanne O'Gorman (Market Research) / N.N. (Introduction to Media and Communication Research)

Contributing Courses to Module

- Market Research (BMFO01_E)
- Introduction to Media and Communication Research (DLBMDEMKW01-01_E)

Module Exam Type

Module Exam	Split Exam
	Market Research • Study Format "Distance Learning": Exam, 90 Minutes Introduction to Media and Communication Research • Study Format "Distance Learning": Exam or Advanced Workbook, 90 Minutes

Weight of Module

see curriculum

Module Contents

Market Research

- Marketing Research: Support in Decision Making
- Choice of Research Approach
- Operationalization Process for Measuring and Scaling Of Variables
- Selection of Survey Parts
- Data Analysis, Interpretation and Presentation

Introduction to Media and Communication Research

- Basic Concepts of Media and Communication Studies
- Media History
- Basic Communication Theories
- Subdisciplines of Media and Communication Studies
- Research Fields in Media and Communication Studies

Learning Outcomes

Market Research

On successful completion, students will be able to

- know the basic methods of market research.
- understand the basic techniques of research approaches, survey methods and data analysis with emphasis on the interpretation and evaluation of results.
- systematically collect and analyze data to make decisions based on sound criteria.
- evaluate the importance, benefits and limitations of market research data.

Introduction to Media and Communication Research

On successful completion, students will be able to

- name common basic terms from the field of media and communication studies.
- compare the past and present development of the media and communications industry.
- name the connection between media, communication and the public.
- summarize basic communication theories.
- name and explain sub-disciplines of media and communication science.
- compare and explain research fields in media and communication science.

Links to other Modules within the Study Program

This module is similar to other modules in the fields of Marketing & Sales and Media Science

Links to other Study Programs of the University

All Bachelor Programs in the Marketing & Communication and Design, Architecture & Construction fields

Market Research

Course Code: BMFO01_E

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

Course Description

The goal of market research is to collect information in order to support management decision-making. Market research information can be obtained in many different ways. The Market Research course provides students with a basic knowledge about the approach to market research and the methods used. All steps of the market research process are presented. The data which is generated through research focusses on topics such as determining the market potential, image analyses or customer satisfaction measurement.

Course Outcomes

On successful completion, students will be able to

- know the basic methods of market research.
- understand the basic techniques of research approaches, survey methods and data analysis with emphasis on the interpretation and evaluation of results.
- systematically collect and analyze data to make decisions based on sound criteria.
- evaluate the importance, benefits and limitations of market research data.

Contents

1. Basics of Market Research
   - 1.1 Definition and Relevance to Marketing
   - 1.2 Tasks and the Process of Market Research
   - 1.3 Providers and Users of Market Research Data
2. Choice of Research Approach
   - 2.1 Research Approachs
   - 2.2 Primary versus Secondary Research
   - 2.3 Qualitative versus Quantitative Research
3. Qualitative Market Research
   - 3.1 Traditional Qualitative Research Methods
   - 3.2 Online Qualitative Research Methods
   - 3.3 Analysis of Qualitative Studies

4. Basic Principles of Quantitative Market Research
   - 4.1 Sampling
   - 4.2 From Research Question to Measuring Instrument
   - 4.3 Measurement Levels and Scaling

5. Surveys: A Method of Quantitative Market Research
   - 5.1 Questionnaire design
   - 5.2 Methods for Data Collection in Surveys
   - 5.3 Online Surveys

6. Further Methods of Quantitative Market Research
   - 6.1 Observation
   - 6.2 Panels and Trend Studies
   - 6.3 Experiments and Test Markets

7. Data Collection and Preparing Data for Analysis
   - 7.1 Data Collection
   - 7.2 Coding and Weighting
   - 7.3 Error Control and Missing Data

8. Data Analysis
   - 8.1 Univariate Procedures
   - 8.2 Bivariate Procedures
   - 8.3 Multivariate Procedures

9. Communicating Research Results
   - 9.1 Condensing Data and Interpretation
   - 9.2 Displaying Results
   - 9.3 Presentation of Results

Literature
Compulsory Reading
Further Reading ▪ Brown, T., Churchill, G. A., & Iacobucci, D. (2005). Marketing Research: Methodological Foundations (9th ed.). Thomson. ▪ Burns, A., Veeck, A., & Bush, R. (2016). Marketing Research (8th ed.). Pearson. ▪ Churchill, G. A., Brown, T., & Suter, T. A. (2010). Basic Marketing Research (7th ed.). Thomson. ▪ Hague, P., Cupman, J., Harrison, M., & Truman, O. (2013). Market Research in Practice: An Introduction to Gaining Greater Market Insight (3rd ed.). Kogan Page.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods

Tutorial Support
- ☑ Course Feed
- ☑ Intensive Live Sessions/Learning Sprint
- ☑ Recorded Live Sessions

Learning Material
- ☑ Course Book
- ☑ Video

Exam Preparation
- ☑ Practice Exam
- ☑ Review Book
- ☑ Online Tests

Introduction to Media and Communication Research

Course Code: DLBMDEMKW01-01_E

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

Course Description

The media and communications industry is currently undergoing rapid change. The digital revolution can no longer be stopped. An elementary role in these processes is communication. In the course Introduction to Media and Communication Science the basic concepts of media and communication studies are discussed and the historical and current development of the media and communication industry is presented and fundamental communication theories are introduced. In addition to an overview of relevant sub-disciplines of media and communication sciences, students will gain knowledge about the direct exchange of information between individuals as well as about communication by means of mass media.

Course Outcomes

On successful completion, students will be able to

- name common basic terms from the field of media and communication studies.
- compare the past and present development of the media and communications industry.
- name the connection between media, communication and the public.
- summarize basic communication theories.
- name and explain sub-disciplines of media and communication science.
- compare and explain research fields in media and communication science.

Contents

1. Basic Concepts of Media and Communication Science
   - 1.1 Communication, Information, Interaction
   - 1.2 Media and Methods
2. Media History
   - 2.1 Historical and Current Development of the Media and Communications Industry
   - 2.2 (Inter-)Dependencies of Media, Public and Society
3. Basic Communication Theories
   - 3.1 Human Communication in the Focus of Different Scientific Disciplines
   - 3.2 Central Communication Models at a Glance
4. Subdisciplines of Media and Communication Studies

4.1 Media and Communication Policy
4.2 Media and Communication Economics
4.3 Media and Communication Ethics

5. Research Fields in Media and Communication Studies
5.1 Interpersonal Communication
5.2 Mass Communication

Literature

Compulsory Reading

Further Reading

- Loisen, J./Joye, S. (2017). On Media and Communication: An Introduction to Communication Sciences: Theory and Research. Acco Uitgeverij.
- Schulz, P. J./Cobley, P. (Hrsg.) (2012). Handbooks of Communication Science. De Gruyter Mouton.
- von Rimscha, B. (Hrsg.) (2020). Management and Economics of Communication. De Gruyter Mouton.
- Plaisance, P. L. (Hrsg.) (2018). Communication and Media Ethics. De Gruyter Mouton.
- Berger, C. R. (Hrsg.) (2014). Interpersonal Communication. De Gruyter Mouton.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Advanced Workbook, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
	☑ Slides	

AI Specialist

Module Code: DLBDSEAIS

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Kristina Schaaff (Artificial Intelligence) / N.N. (Project: Artificial Intelligence)

Contributing Courses to Module

- Artificial Intelligence (DLBDSEAIS01)
- Project: Artificial Intelligence (DLBDSEAIS02)

Module Exam Type

Module Exam	Split Exam
	Artificial Intelligence • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "Duales myStudium": Exam, 90 Minutes Project: Artificial Intelligence • Study Format "Distance Learning": Portfolio • Study Format "Duales myStudium": Portfolio

Weight of Module

see curriculum

Module Contents

Artificial Intelligence

- History of AI
- Modern AI systems
- Reinforcement learning
- Natural language processing
- Computer vision

Project: Artificial Intelligence

This course focuses on developing a simple AI system for a specific application and domain. A current list of topics is located in the Learning Management System.

Learning Outcomes

Artificial Intelligence

On successful completion, students will be able to

- chart the historical developments in artificial intelligence.
- understand the approach of contemporary AI systems.
- comprehend the concepts behind reinforcement learning.
- analyze natural language using basic NLP techniques.
- scrutinize images and their contents.

Project: Artificial Intelligence

On successful completion, students will be able to

- determine the requirements for building an artificial intelligence system.
- evaluate an application for an AI system.
- transfer theoretically-sound and practically-proven methods and tools to an application domain.
- create an AI system for a chosen application.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Data Science & Artificial Intelligence	All Bachelor Programs in the IT & Technology fields

Artificial Intelligence

Course Code: DLBDSEAIS01

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

Course Description

The quest for artificial intelligence (AI) has captured humanity's interest for many decades and has been an active research area since the 1960s. This course will give a detailed overview of the historical developments, successes, and set-backs in AI, as well as modern approaches in the development of artificial intelligence.This course gives an introduction to reinforcement learning, a process similar to how humans and animals experience the world: exploring the environment and inferring the best course of action.This course also covers the principles of natural language processing and computer vision, both of which are key ingredients for an artificial intelligence to be able to interact with its environment.

Course Outcomes

On successful completion, students will be able to

- chart the historical developments in artificial intelligence.
- understand the approach of contemporary AI systems.
- comprehend the concepts behind reinforcement learning.
- analyze natural language using basic NLP techniques.
- scrutinize images and their contents.

Contents

1. History of AI
   - 1.1 Historical Developments
   - 1.2 AI Winter
   - 1.3 Expert Systems
   - 1.4 Notable Advances
2. Modern AI Systems
   - 2.1 Narrow versus General AI
   - 2.2 Application Areas
3. Reinforcement Learning
   - 3.1 What is Reinforcement Learning?
   - 3.2 Markov Chains and Value Function

3.3 Time-Difference and Q Learning

4. Natural Language Processing (NLP)
   - 4.1 Introduction to NLP and Application Areas
   - 4.2 Basic NLP Techniques
   - 4.3 Vectorizing Data

5. Computer Vision
   - 5.1 Introduction to Computer Vision
   - 5.2 Image Representation and Geometry
   - 5.3 Feature Detection
   - 5.4 Semantic Segmentation

Literature

Compulsory Reading

Further Reading

- Bear, F., Barry, W., & Paradiso, M. (2020). Neuroscience: Exploring the brain (4th ed.). Lippincott Williams & Wilkins.
- Chollet, F. (2018). Deep learning with Python. Manning.
- Geron, A. (2017). Hands-on machine learning with Scikit-Learn and TensorFlow. O'Reilly.
- Géron, A. (2019). Hands-on machine learning with Scikit-Learn, Keras, and TensorFlow: Concepts, tools, and techniques to build intelligent systems (2nd ed.). O'Reilly.
- Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep learning. MIT Press.
- Grus, J. (2019). Data science from scratch: First principles with Python. O'Reilly.
- Jurafsky, D., & Martin, J. H. (2022). Speech and language processing (3rd ed.). Prentice Hall.
- Russell, S. J., & Norvig, P. (2022). Artificial Intelligence: A modern approach (4th ed., global ed.). Pearson.
- Sutton, R. S., & Barto, A. G. (2018). Reinforcement learning: An introduction (2nd ed.). MIT Press. (Adaptive Computation and Machine Learning series).
- Szeliski, R. (2022). Computer vision: Algorithms and applications (2nd ed.). Springer. (Texts in Computer Science series).

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Project: Artificial Intelligence

Course Code: DLBDSEAIS02

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

Course Description

This project course will give students hands-on experience in the challenging task of designing and developing an AI system for a specific application and domain. Students will need to consider requirements and practical constraints as well as the desired output of the AI system.Following this course the students will get holistic overview of developing a specific AI-based application.

Course Outcomes

On successful completion, students will be able to

- determine the requirements for building an artificial intelligence system.
- evaluate an application for an AI system.
- transfer theoretically-sound and practically-proven methods and tools to an application domain.
- create an AI system for a chosen application.

Contents

- This project course focuses on understanding and implementing a simple AI system. Based on the course Artificial Intelligence (DLBDSEAI01), students will design and implement a simple AI system. In the first step, students will choose a specific application and domain and then use the methods from the course to analyze the requirements and outcomes before implementing their own AI application. All relevant artifacts and considerations are documented by the students in a course portfolio.

Literature
Compulsory Reading
Further Reading ▪ Bear, F./Barry, W./Paradiso, M. (2020): Neuroscience: Exploring the brain. 4th ed., Lippincott Williams and Wilkins, Baltimore, MD ▪ Geron, A. (2019): Hands-on machine learning with Scikit-Learn and TensorFlow. O'Reilly, Boston, MA. ▪ Goodfellow, I./Bengio, Y./Courville, A. (2016): Deep learning. MIT Press, Boston, MA. ▪ Grus, J. (2019): Data science from scratch: First principles with Python. O'Reilley, Sebastopol, CA. ▪ Chollet, F. (2018). Deep learning with Python. Manning. ▪ Géron, A. (2019). Hands-on machine learning with Scikit-Learn, Keras, and TensorFlow: concepts, tools, and techniques to build intelligent systems (Second edition). O'Reilly. ▪ Grus, J. (2019): Data science from scratch: First principles with Python. O'Reilley, Sebastopol, CA. ▪ Jurafsky, D., & Martin, J. H. (2022). Speech and language processing (3rd ed.). Prentice Hall. ▪ Russell, S. J., & Norvig, P. (2022). Artificial intelligence: a modern approach (Fourth edition, global edition). Pearson. ▪ Szeliski, R. (2022). Computer vision: Algorithms and applications (2nd ed. 2022). Texts in computer science. Springer.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Data Engineer

Module Code: DLBDSEDE

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimaldauer: 1 Semester	WiSe/SoSe	English

Module Coordinator

Sahar Qaadan (Data Engineering) / Sahar Qaadan (Project: Data Engineering)

Contributing Courses to Module

- Data Engineering (DLBDSEDE01)
- Project: Data Engineering (DLBDSEDE02)

Module Exam Type

Module Exam	Split Exam
	Data Engineering • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes • Study Format "On Campus": Exam, 90 Minutes Project: Data Engineering • Study Format "Distance Learning": Portfolio • Study Format "On Campus": Portfolio • Study Format "myStudies": Portfolio

Weight of Module

see curriculum

Module Contents

Data Engineering

- understand important foundational concepts in data engineering.
- recognize established and commonly-employed NoSQL datastores and their salient characteristics.
- comprehend common architectural patterns for data processing at scale.
- explain the concept of containerization as a virtualization approach.
- analyze operational challenges in the set-up and maintenance of data pipelines.
- demonstrate familiarity with concepts relating to data security and protection.

Project: Data Engineering

- formulate and implement a real-world data engineering use case.
- select appropriate resources for the task at hand.
- transfer acquired specialized knowledge in data engineering to a real-world use case.
- derive relevant design choices from the given project setting.
- analyze the suitability of different solution options with respect to the project task.
- make apposite choices with respect to implementation alternatives.

Learning Outcomes

Data Engineering

On successful completion, students will be able to

- understand important foundational concepts in data engineering.
- recognize established and commonly-employed NoSQL datastores and their salient characteristics.
- comprehend common architectural patterns for data processing at scale.
- explain the concept of containerization as a virtualization approach.
- analyze operational challenges in the set-up and maintenance of data pipelines.
- demonstrate familiarity with concepts relating to data security and protection.

Project: Data Engineering

On successful completion, students will be able to

- formulate and implement a real-world data engineering use case.
- select appropriate resources for the task at hand.
- transfer acquired specialized knowledge in data engineering to a real-world use case.
- derive relevant design choices from the given project setting.
- analyze the suitability of different solution options with respect to the project task.
- make apposite choices with respect to implementation alternatives.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field(s) of Data Science & Artificial Intelligence.	All Bachelor Programs in the IT & Technology field(s).

Data Engineering

Course Code: DLBDSEDE01

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

Course Description

This course explores concepts of data engineering. Data engineering is concerned with the infrastructure aspects of data science such as data storage and provision, as well as the provisioning of suitable operational environments.After laying out foundational notions and concepts of the discipline, this course addresses important developments in storage technology; aspects of systems architecture for processing data at scale; containerization as a modern take on virtualization; and the logic of data pipelines and associated operational aspects. Important issues pertaining to data security and protection are also given appropriate attention.

Course Outcomes

On successful completion, students will be able to

- understand important foundational concepts in data engineering.
- recognize established and commonly-employed NoSQL datastores and their salient characteristics.
- comprehend common architectural patterns for data processing at scale.
- explain the concept of containerization as a virtualization approach.
- analyze operational challenges in the set-up and maintenance of data pipelines.
- demonstrate familiarity with concepts relating to data security and protection.

Contents

1. Foundations of Data Engineering
   - 1.1 Reliability
   - 1.2 Scalability
   - 1.3 Maintainability
2. NoSQL In Depth
   - 2.1 Fundamentals of NoSQL
   - 2.2 Established NoSQL solutions
3. Architectures for Data Processing at Scale
   - 3.1 Batch processing architectures
   - 3.2 Architectures for stream and complex event processing
   - 3.3 Lambda architecture

4. Containerization In Depth
   - 4.1 Docker containers
   - 4.2 Container management

5. Governance & Security
   - 5.1 Data protection
   - 5.2 Data security
   - 5.3 Data governance

6. Operational Aspects
   - 6.1 Defining principles of DataOps
   - 6.2 Building and maintaining data pipelines
   - 6.3 Metrics and monitoring

Literature

Compulsory Reading

Further Reading

- Adkins, H., Beyer, B., Blankinship, P., Lewandowski, P., Oprea, A., & Stubblefield, A. (2020). Building secure and reliable systems. O'Reilly.
- Franks, B. (2020). 97 things about ethics everyone in data science should know. O'Reilly.
- Kane, S. P., & Matthias, K. (2018). Docker: Up and running (2nd ed.). O'Reilly.
- Kleppmann, M. (2017). Designing data-intensive applications: The big ideas behind reliable, scalable, and maintainable systems. O'Reilly.
- Narkhede, N., Palino, T., & Shapira, G. (2017). Kafka: The definitive guide. O'Reilly.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format On Campus

Study Format	Course Type
On Campus	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions

Project: Data Engineering

Course Code: DLBDSEDE02

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

Course Description

The focus of this course is the implementation of a real-world data engineering use case in the form of a student portfolio. To this end, students choose a project subject from the various sub-domains of data engineering. Examples include setting up a Docker container environment or dockerized service; implementing a data pipeline according to DataOps principles; and setting up an NoSQL data store.The goal is for students to demonstrate they can transfer theoretical knowledge to an implementation scenario that closely mimics practical work in a professional data engineering setting.

Course Outcomes

On successful completion, students will be able to

- formulate and implement a real-world data engineering use case.
- select appropriate resources for the task at hand.
- transfer acquired specialized knowledge in data engineering to a real-world use case.
- derive relevant design choices from the given project setting.
- analyze the suitability of different solution options with respect to the project task.
- make apposite choices with respect to implementation alternatives.

Contents

- This course covers the practical implementation of approaches and techniques covered in the preceding methodological course in a project-oriented setting. Each participant must produce a portfolio detailing and documenting the work. Porfolio themes are chosen from a list, or suggested by the students in accord with the tutor.

Literature

Compulsory Reading

Further Reading

- Kleppmann, Martin (2017): Designing data-intensive applications. The big ideas behind reliable, scalable, and maintainable systems. 1st Edition. Sebastopol, CA: O'Reilly.
- Kane, Sean P.; Matthias, Karl (2018): Docker. Shipping Reliable Containers in Production. 2nd Edition. Sebastopol, CA: O'Reilly.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Study Format On Campus

Study Format	Course Type
On Campus	

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions

Study Format myStudies

Study Format	Course Type
myStudies	

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions

Digital HR and Change Management

Module Code: DLBDBEEDHRCM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. John Stanley (Change Management) / Prof. Dr. Michaela Moser (Digital HR)

Contributing Courses to Module

- Change Management (DLBDBCM01_E)
- Digital HR (DLBPEDHR01_E)

Module Exam Type

Module Exam	Split Exam
	Change Management • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes Digital HR • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Change Management

- Introduction to Change Management
- Understanding and Shaping Change
- Phase Models of Change Management
- Phases of the Change Process
- Change Communication
- Influencing Factors and Typical Errors in Change Management
- Operational Instruments in the Context of Change Management

Digital HR

- Basics of Digitalization
- Digital Technologies
- Potentials of Digitalization in Personnel Management
- Digitalization and Workforce Planning and Recruitment
- Approaches to Digital Learning in Personnel Development
- Digital Leadership
- Digital Transformation
- Framework Conditions for Successful Digitalization
- New Professions as a Result of Digitization

Learning Outcomes

Change Management

On successful completion, students will be able to

- explain the management of change in its broadest sense.
- identify the characteristics and procedures by which necessary changes in companies can beidentified and designed.
- grasp the basics of processes in change management and communicate them to otherparticipants.
- identify and analyze the need for change.
- outline typical tasks of managers in initiating and accompanying change processes.
- explain essential and effective techniques and tools of change processes and apply them.
- evaluate the success of change processes and measures.
- develop meaningful ways of dealing with resistance that arises in the change process.

Digital HR

On successful completion, students will be able to

- understand the influences and consequences of the digitalization on the world of work and human resource management as well as the potential of digitization.
- describe digital technologies that have an impact on human resource management.
- identify specifics of digitalization for recruiting, HR development, and leadership as HR functions which are highly impacted by this megatrend.
- understand the role of HR in the digital transformation.
- capture important framework conditions for the success of digitalization in the HR sector.
- deal with new professions that are emerging in the context of digitalization.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Business Administration & Management and Human Resources	All Bachelor Programs in the Business & Management and Human Resources fields

Change Management

Course Code: DLBDBCM01_E

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

Course Description

The pace of change in markets, technologies and customer behavior has increased significantly.These developments offer growth opportunities for companies - new business models, mergingmarkets, changed customer behavior. To utilize future potentials, companies need to implementchanges effectively and quickly. To do this, it is essential to know the meaning, structure, roles ofthe people involved, possible bottle neck situations and communication within the framework ofchange management. A great number of change programs regularly fail in the operationalimplementation. Therefore, knowledge of the systematic approach to the change process isnecessary to successfully manage change in and of the company. People and processes play acentral role in this procedure.

Course Outcomes

On successful completion, students will be able to

- explain the management of change in its broadest sense.
- identify the characteristics and procedures by which necessary changes in companies can beidentified and designed.
- grasp the basics of processes in change management and communicate them to otherparticipants.
- identify and analyze the need for change.
- outline typical tasks of managers in initiating and accompanying change processes.
- explain essential and effective techniques and tools of change processes and apply them.
- evaluate the success of change processes and measures.
- develop meaningful ways of dealing with resistance that arises in the change process.

Contents

1. Introduction to Change Management
    - 1.1 Terms and Definitions
    - 1.2 Limitations of Change Management
    - 1.3 Models of Change
2. Causes and Triggers of Change
    - 2.1 Change and Transformation
    - 2.2 External Triggers of Change

2.3 Internal Triggers for Change

3. The company as an Obstacle to Change
   - 3.1 Obstacles at Organizational Level
   - 3.2 Collective Obstacles
   - 3.3 Economic Obstacles

4. Resistance at Individual Level
   - 4.1 Manifestations of Individual Resistance
   - 4.2 Causes and Triggers of Individual Resistance
   - 4.3 Actions towards Resistance

5. Change as a Management Task
   - 5.1 Success Factors of Change Management
   - 5.2 Management Tasks in Change
   - 5.3 Change Management Activity Plans

6. Leading Change
   - 6.1 Success Factor: Leadership and Manager
   - 6.2 Leadership Roles and Functions
   - 6.3 Change Communication

7. Management of Change Projects
   - 7.1 Change Management Models
   - 7.2 Organization of Change Management
   - 7.3 Controlling and Evaluation of Change Projects

Literature

Compulsory Reading

Further Reading

- Lauer, T. (2021). Change management: Fundamentals and success factors. Springer Verlag.
- Hayes, J. (2018). The theory and practice of change management [electronic resource] (Fifth edition). Palgrave Macmillan.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Digital HR

Course Code: DLBPEDHR01_E

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

Course Description

The aim of the course is to address the impact of the megatrend "digitalization " on HR management and the world of work. This trend offers HR departments the opportunity to redefine themselves. As a result of digitalization, HR departments are in a position to leave the classic role as "administrators" of personnel and turn to the value creation potential of HR departments. Therefore, the potential of the latest technological developments (such as artificial intelligence) for individual steps of HR management will be considered. A brief, overview-like description of the technologies for HR is fundamental. Although HR professionals do not need to understand these technologies in detail, it is necessary for them to know their core aspects regarding HR business processes. The course also discusses important framework conditions that cannot be ignored for successful digitalization. In addition, it focuses on the emergence of new professions and requirements as a result of digitalization. The dual digitization challenges of HR by contributing to the digital transformation and the transformation of the HR function are addressed as well.

Course Outcomes

On successful completion, students will be able to

- understand the influences and consequences of the digitalization on the world of work and human resource management as well as the potential of digitization.
- describe digital technologies that have an impact on human resource management.
- identify specifics of digitalization for recruiting, HR development, and leadership as HR functions which are highly impacted by this megatrend.
- understand the role of HR in the digital transformation.
- capture important framework conditions for the success of digitalization in the HR sector.
- deal with new professions that are emerging in the context of digitalization.

Contents

1. Basics of Digitalization
    - 1.1 Introduction to the Problem
    - 1.2 Concept of Digitalizationand Scenarios
    - 1.3 Consequences for the World of Work and Personnel Management
2. Digital Technologies
    - 2.1 Introduction

8.6 Digital Health Management

9. New Professions as a Result of Digitalization
   - 9.1 Introduction
   - 9.2 Digital Professions
   - 9.3 Conclusion and Outlook

Literature

Compulsory Reading

Further Reading

- Ashmarina, S. I. et al. (2021): Digital Economy and the New Labor Market: Jobs, Competences and Innovative HR Technologies. Springer Nature, Cham.
- Cantoni, F. et al. (2018): Human Resource Management and Digitalization. G. Giappichelli Editore, Torino.
- Güldenberg, S./Ernst, E./North, K. (2021): Managing Work in the Digital Economy: Challenges, Strategies and Practices for the Next Decade. Springer Nature, Cham.
- Trost, A. (2020): .Human Resources Strategies [electronic resource] : Balancing Stability and Agility in Times of Digitization. Springer Nature, Cham.
- Urbach, N./Röglinger, M. (2018): Digitalization Cases: How Organizations Rethink Their Business for the Digital Age. Springer Nature, Cham.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Sustainable Entrepreneurship

Module Code: DLBEPWSEP-01_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Karsten Hurrelmann (Sustainability) / Dr. Karsten Hurrelmann (Project: Sustainable Entrepreneurship)

Contributing Courses to Module

- Sustainability (DLBBAS01-01_E)
- Project: Sustainable Entrepreneurship (DLBEPWSEP01_E)

Module Exam Type

Module Exam	Split Exam
	Sustainability • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes Project: Sustainable Entrepreneurship • Study Format "Distance Learning": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

Sustainability

- Fundamentals of Sustainability
- Levels of Sustainability
- Frameworks for Sustainability
- Technical Aspects of Sustainability
- Sustainability Reporting
- Examples of Corporate Sustainability Management Programs

Project: Sustainable Entrepreneurship

Sustainable Entrepreneurship deals with the basics of sustainability and sustainable business idea generation and development. It provides students not only with the understanding of the fundamentals of doing business in a sustainable manner, but as well offers the practical experience to develop a sustainable business idea.

Learning Outcomes

Sustainability

On successful completion, students will be able to

- understand the concept sustainability.
- contextualize sustainability in ethical and economical terms.
- explain international frameworks of sustainability.
- understand the technical implications of sustainability.
- develop corporate reporting along the triple bottom line.
- critically analyze sustainability management examples from professional practice.

Project: Sustainable Entrepreneurship

On successful completion, students will be able to

- understand the relevance and different types of sustainable business ideas and models,
- develop a market-oriented business idea with a high sustainable impact for a relevant problem using the principles of sustainable entrepreneurship and business models,
- classify and relate their developed business ideas with typical frameworks of sustainable entrepreneurship, e.g. UN sustainable development goals (SDGs),
- discuss potential business models and funding options for their sustainable business idea, define and conduct a market test to prove the value proposition, business, and market potential,
- estimate and calculate the concrete sustainable impact, e.g. decarbonization effect, reduction of waste, changing people's behavior and lifestyle towards sustainability,
- recognize and design for their sustainable business idea the relevant marketing and distribution measures to spread their sustainable ideas.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Quality and Sustainability Management	All Bachelor Programs in the Business & Management field

Sustainability

Course Code: DLBBAS01-01_E

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

Course Description

This course gives students insights into sustainability. It presents fundamentals and definitions and explains the ethical and economic context of sustainability, the various levels of its occurrence and relevant international frameworks. Furthermore, students will familiarize themselves with product development, product life cycle planning and triple bottom line reporting from a sustainability viewpoint. Real life cases of corporate sustainability programs provide insights into different examples from professional practice, thus linking theory and practice.

Course Outcomes

On successful completion, students will be able to

- understand the concept sustainability.
- contextualize sustainability in ethical and economical terms.
- explain international frameworks of sustainability.
- understand the technical implications of sustainability.
- develop corporate reporting along the triple bottom line.
- critically analyze sustainability management examples from professional practice.

Contents

1. Fundamentals of Sustainability
   - 1.1 History and Definition
   - 1.2 Sustainability in the Context of Ethics
   - 1.3 Sustainability in the Context of Business: Corporate Social Responsibility
2. Levels of Sustainability
   - 2.1 Societal Level
   - 2.2 Corporate Level
   - 2.3 Individual Level
3. Frameworks for Sustainability
   - 3.1 Sustainable Development Goals
   - 3.2 ISO 14001 and ISO 26000
   - 3.3 Industry Standards on Sustainability

4. Technical Aspects of Sustainability
   - 4.1 Life Cycle Assessment
   - 4.2 Research and Product Development
   - 4.3 Product-Service System Design

5. Sustainability Reporting
   - 5.1 Evolution of Sustainability Reporting
   - 5.2 Global Reporting Initiative
   - 5.3 Greenhouse Gas Protocol

6. Examples of Corporate Sustainability Management Programs
   - 6.1 Case 1: Patagonia
   - 6.2 Case 2: Easee
   - 6.3 Case 3: Island Grower Caribbean

Literature

Compulsory Reading

Further Reading

- Jarmai, K. (2020): Learning from Sustainability-Oriented Innovation. In: Jarmai, K. (ed.): Responsible Innovation: Business Opportunities and Strategies for Implementation. SpringerBriefs in Research and Innovation Governance, Dordrecht, p. 19-35.
- Lehman, C. R. (2015): Sustainability and Governance. Advances in Public Interest Accounting. Vol. 18, 1st ed. Emerald Group Publishing Limited, Bingley, UK.
- Mazijn B./Revéret J.P. (2015): Life Cycle Sustainability Assessment: A Tool for Exercising Due Diligence in Life Cycle Management. In: Sonnemann, G./Margni, M. (Eds.): Life Cycle Management. Springer, Dordrecht. p. 51-63.
- Shmeleva, I. A./Shmelev, S. (2012): Sustainability Analysis: An Interdisciplinary Approach. Palgrave Macmillan, Houndmills, UK.
- Walker D. H.T./Lloyd-Walker B. M. (2015): Triple Bottom Line Implications. In: Collaborative Project Procurement Arrangements. Project Management Institute, Pennsylvania, USA.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Slides	

Project: Sustainable Entrepreneurship

Course Code: DLBEPWSEP01_E

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

Course Description

In this course, students learn to develop a sustainable business idea using current methods of sustainable business modelling and entrepreneurship. The impact of the business idea due to sustainability will be estimated and transformed into the major element of the value proposition. By doing so, the students will not only learn the fundamentals of sustainable entrepreneurship, but as well experience them by their own real development of a sustainable business idea.

Course Outcomes

On successful completion, students will be able to

- understand the relevance and different types of sustainable business ideas and models,
- develop a market-oriented business idea with a high sustainable impact for a relevant problem using the principles of sustainable entrepreneurship and business models,
- classify and relate their developed business ideas with typical frameworks of sustainable entrepreneurship, e.g. UN sustainable development goals (SDGs),
- discuss potential business models and funding options for their sustainable business idea, define and conduct a market test to prove the value proposition, business, and market potential,
- estimate and calculate the concrete sustainable impact, e.g. decarbonization effect, reduction of waste, changing people's behavior and lifestyle towards sustainability,
- recognize and design for their sustainable business idea the relevant marketing and distribution measures to spread their sustainable ideas.

Contents

- New entrepreneurial businesses can provide innovative solutions to the many contemporary sustainability challenges faced by societies and economies. The course will teach the concept of sustainable business models and their role for sustainable entrepreneurship. Students will learn how to develop ideas and experiment with sustainable business models, with a focus on the value proposition and the sustainable impact at the heart of these models. The ideas address sustainability or climate crisis challenges transforming them into value propositions as well as test these in the field. Based on the creation of a self-developed sustainable business idea and model students will go through the complete process of sustainable business modelling. The important step of the process is the development of a sustainable business idea for a relevant problem (using the SDG framework: the UN sustainable development goals, definition of the value proposition and

market-oriented business model incl. funding options). In addition, core tasks of the course are the estimation and calculation of the sustainable impact of the new developed idea in comparison to existing solutions in the market. Hereby, the emphasis is to outline the impact by showing e.g. the decarbonization effect of the idea. The course is framed as a problem-based and practise-oriented learning experience. Therefore, the project of each student will describe the sustainable business idea with its business model and impact estimations. The sustainable business idea can be either a self-developed or fictitious idea.

Literature

Compulsory Reading

Further Reading

- Ibisch, P./Molitor, H./Conrad, A./Walk, H./Mihotovic, V./Geyer, J. (2019): Humans in the global ecosystem: An introduction to sustainable development, Oekom, München.
- Bland, D./Osterwalder, A. (2019): Testing Business Ideas. Wiley & Sons, Inc. Hoboken, New Jersey.
- United Nations Environment Programme (UNEP (2016): A framework for shaping sustainable lifestyles – Determinants and strategies. UNEP, Nairobi.
- Osterwalder, A./Pigneur, Y./Bernarda, G./Smith, A. (2014): Value Proposition Design: How to Create Products and Services Customers Want. Wiley & Sons, Inc. Hoboken, New Jersey.
- Boons, F./Lüdeke-Freund, F. (2013): Business models for sustainable innovation: state-of-the-art and steps towards a research agenda, Journal of Cleaner Production, 45, p. 9–19.
- Schaltegger, S./Wagner, M. (2011): Sustainable entrepreneurship and sustainability innovation: categories and interactions, Business Strategy and the Environment, 20(4), p. 222–237.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Innovative Technologies and Sustainability

Module Code: DLBEPWITN_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Christian Kroll (Circular Economy) / Prof. Dr. Christian Kroll (Sustainable Technologies)

Contributing Courses to Module

- Circular Economy (DLBEPWITN01_E)
- Sustainable Technologies (DLBEPWITN02_E)

Module Exam Type

Module Exam	Split Exam
	Circular Economy • Study Format "myStudies": Exam • Study Format "Distance Learning": Exam, 90 Minutes Sustainable Technologies • Study Format "Duales myStudium": Exam, 90 Minutes • Study Format "myStudies": Exam • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Circular Economy

- Origin and Definition of the Circular Economy
- Drivers of the Circular Economy
- The "R-framework of circularity" - the 7 "Rs" and their application
- Requirements of the Circular Economy
- Transformation towards a Circular Economy
- Examples of Approaches and Business Models of the Circular Economy

Sustainable Technologies

- Energy technologies
- Water technologies
- Raw material and material technologies
- Urban technologies
- Transport technologies
- Evaluation of sustainable technologies

Learning Outcomes

Circular Economy

On successful completion, students will be able to

- understand which origins and reasons make a reshape and restructure of the current linearly organized economy towards a circular economy necessary.
- describe the most important drivers of the circular economy.
- explain important concepts and deductions of the Circular Economy and their impact on organizational forms, business models, production and technologies as well as economic activity, and to evaluate their advantages and disadvantages.
- understand and learn to shape the transformation process from a currently linearly organized economy to a circular economy.

Sustainable Technologies

On successful completion, students will be able to

- remember the definition and concepts of the term sustainability,
- understand different systems and their interactions as well as the social significance of sustainable technologies,
- remember the areas of use and possible applications of sustainable technologies,
- analyze, evaluate and compare sustainable technologies based on objective criteria.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Qualityand Sustainability Management and Natural Sciences	All Bachelor Programs in the Transport & Logistics and IT & Technology fields

Circular Economy

Course Code: DLBEPWITN01_E

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

Course Description

In contrast to the currently predominant principle of linear economy in industrial production and economy, the approach of the circular economy represents a regenerative system. Theobjective of the Circular Economy is to lower the use of resources and to reduce waste production, emissions and energy waste by slowing down, reducing and closing energy and material cycles. The course provides an overview of the origins, the framework conditions and the requirements of a Circular Economy. In addition, the students receive an insight into the economic transformation processes and adjustments in terms of production, technologies, supply chain, forms of organization and business models.

Course Outcomes

On successful completion, students will be able to

- understand which origins and reasons make a reshape and restructure of the current linearly organized economy towards a circular economy necessary.
- describe the most important drivers of the circular economy.
- explain important concepts and deductions of the Circular Economy and their impact on organizational forms, business models, production and technologies as well as economic activity, and to evaluate their advantages and disadvantages.
- understand and learn to shape the transformation process from a currently linearly organized economy to a circular economy.

Contents

1. Origin and Definition of the Circular Economy
   - 1.1 Background, History and Definition
   - 1.2 Environmental Crisis
   - 1.3 Waste of Resources
   - 1.4 Negative Externalities
2. Drivers of the Circular Economy
   - 2.1 Legal Framework in Europe and Germany
   - 2.2 International Framework Conditions - Paris Agreement and UN Sustainable Development Goals
   - 2.3 Technological and Economic Drivers, Such as the Sharing Economy

2.4 Social and Political Drivers, Such as Zero Waste Vision and Coal Exit

3. The "R-Framework of Circularity" - The 7 "Rs" and Their Application
   - 3.1 "Rethink"
   - 3.2 "Reduce"
   - 3.3 "Re-Use" and "Repair"
   - 3.4 "Refurbish" and "Recover"
   - 3.5 "Recycle"

4. Requirements of the Recycling Economy
   - 4.1 Other Forms and Demands for Raw Materials
   - 4.2 Critical and Scarce Raw Materials
   - 4.3 Example: Renewable Energies

5. Transformation Towards a Circular Economy
   - 5.1 Substitution and Design Strategies
   - 5.2 Political and Economic Strategies
   - 5.3 Transformation of the Production and Supply Chain
   - 5.4 Transformation of the "Throwaway" Culture

6. Examples for Approaches and Business Models of the Circular Economy
   - 6.1 Waste Management
   - 6.2 Energy Industry

Literature

Compulsory Reading

Further Reading

- Lacy, P./Long, J./Spindler, W. (2020): The Circular Economy Handbook: Realizing the Circular Advantage, Palgrave Macmillan, Basingstoke, UK.
- Webster, Ken (2017): The Circular Economy: A Wealth of Flows, 2nd Edition, Lightning Source, LaVergne, USA.
- Gallaud, D./Laperche, B. (2016): Circular Economy, Industrial Ecology and Short Supply Chain: Towards Sustainable Territories, Innovation, Entrepreneurship, Management: Smart Innovation Set, Band 4, John Wiley & Sons, New York, USA.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Exam

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Sustainable Technologies

Course Code: DLBEPWITN02_E

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

Course Description

Sustainable technologies differ significantly from conventional technologies, which often cause ecological and social problems due to their dependence on conventional primary energy sources (fossil or nuclear) and/or their emissions. In the course, students get an overview of the areas and applications of sustainable technologies and gain insight into methods of evaluating and comparing them based on objective criteria.

Course Outcomes

On successful completion, students will be able to

- remember the definition and concepts of the term sustainability,
- understand different systems and their interactions as well as the social significance of sustainable technologies,
- remember the areas of use and possible applications of sustainable technologies,
- analyze, evaluate and compare sustainable technologies based on objective criteria.

Contents

1. Sustainable technologies: Introduction and context
    - 1.1 Characteristics of sustainable technologies
    - 1.2 Systems and interdependencies
    - 1.3 Social relevance
    - 1.4 Economic aspects of sustainable technologies
    - 1.5 Technical challenges of sustainable technologies
2. Energy Technologies
    - 2.1 Energy forms
    - 2.2 Conventional primary energy sources
    - 2.3 Regenerative primary energy sources
    - 2.4 Energy storage technology
    - 2.5 Energy conversion technologies and conversion efficiency
    - 2.6 Energy supply grids
3. Water Technologies

- 3.1 Water treatment and conditioning
- 3.2 Water systems

4. Raw material and material technologies
   - 4.1 Material efficiency
   - 4.2 Optimization of material functionalities
   - 4.3 Recycling

5. Urban Technologies
   - 5.1 Building technology
   - 5.2 Supply and disposal
   - 5.3 Synergy potentials in urban centers

6. Transport Technologies
   - 6.1 Sustainable transport systems
   - 6.2 Fuels
   - 6.3 Material reduction

7. Evaluation of sustainable technologies
   - 7.1 Upstream and downstream energy chains
   - 7.2 Material flow analyses
   - 7.3 Life cycles, obsolescence and recyclability, life cycle assessment
   - 7.4 Comparisons based on individual criteria
   - 7.5 Technology impact assessment

Literature
Compulsory Reading
Further Reading ▪ Benetto, E./ Gericke, K. (Eds.). (2018): Designing Sustainable Technologies, Products and Policies: From Science to Innovation. Springer International Publishing; Springer. ▪ Mino, T./ Shogo, K. (Eds.). (2020): Framing in Sustainability Science: Theoretical and Practical Approaches. Science for Sustainable Societies. Springer Singapore. ▪ Kamran, M./ Fazal, M. (2021). Fundamentals of Renewable Energy Systems: Technologies, design and operation. Elsevier Academic Press. ▪ Hüttl, R. F./ Bens, O./ Bismuth, C.,/ Hoechstetter, S. (Eds.). (2016). Water Resources Development and Management. Society - Water - Technology: A Critical Appraisal of Major Water Engineering Projects. Springer International Publishing; Springer. ▪ Riggs, W. (Ed.). (2020). Disruptive transport: Driverless cars, transport innovation and the sustainable city of tomorrow. Routledge.

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Exam

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Foundations of Programming with Python

Module Code: DLBBUEFPP

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Dr. Cosmina Croitoru (Introduction to Programming with Python) / Prof. Dr. Max Pumperla (Object Oriented and Functional Programming in Python)

Contributing Courses to Module

- Introduction to Programming with Python (DLBDSIPWP01)
- Object Oriented and Functional Programming in Python (DLBDSOOFPP01)

Module Exam Type

Module Exam

Split Exam

Introduction to Programming with Python

- Study Format "myStudies": Exam, 90 Minutes
- Study Format "Distance Learning": Exam, 90 Minutes
- Study Format "On Campus": Exam, 90 Minutes

Object Oriented and Functional Programming in Python

- Study Format "Distance Learning": Portfolio
- Study Format "myStudies": Portfolio

Weight of Module

see curriculum

Module Contents

Introduction to Programming with Python

- Introduction
- Variables and Data Types
- Statements
- Functions
- Errors and Exceptions
- Modules and Packages

Object Oriented and Functional Programming in Python

This course introduces the students to the advanced programming concepts of object orientation and functional programming and how they are realized in the Python programming language.

Learning Outcomes

Introduction to Programming with Python

On successful completion, students will be able to

- use fundamental Python syntax.
- recollect common elementary data types.
- recognize foundational programming concepts and their realization in Python.
- understand error handling and logging.
- create working programs.
- list the most important libraries and packages for data science.

Object Oriented and Functional Programming in Python

On successful completion, students will be able to

- explain basic notions in object-oriented programming such as functions and classes.
- understand object-oriented programming concepts and their relation to software design and engineering.
- describe advanced function concepts in Python.
- recognize important ideas from functional programming.
- recall important libraries for functional programming in Python.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Data Science & Artificial Intelligence	All Bachelor Programs in the IT & Technology fields

Introduction to Programming with Python

Course Code: DLBDSIPWP01

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

Course Description

This course provides students with a foundational understanding of the Python programming language. Following an introductory exposition to the importance of Python for data science-related programming tasks, students will be acquainted with fundamental programming concepts like variables, data types, and statements. Building on this basis, the important notion of a function is explained and errors, exception handling, and logging are explicated. The course concludes with an overview of the most widely-used library packages for data science.

Course Outcomes

On successful completion, students will be able to

- use fundamental Python syntax.
- recollect common elementary data types.
- recognize foundational programming concepts and their realization in Python.
- understand error handling and logging.
- create working programs.
- list the most important libraries and packages for data science.

Contents

1. Introduction
   - 1.1 Why Python?
   - 1.2 Obtaining and installing Python
   - 1.3 The Python interpreter , IPython, and Jupyter
2. Variables and Data Types
   - 2.1 Variables and value assignment
   - 2.2 Numbers
   - 2.3 Strings
   - 2.4 Collections
   - 2.5 Files
3. Statements
   - 3.1 Assignment, expressions, and print

3.2 Conditional statements
3.3 Loops
3.4 Iterators and comprehensions

4. Functions
   4.1 Function declaration
   4.2 Scope
   4.3 Arguments

5. Errors and Exceptions
   5.1 Errors
   5.2 Exception handling
   5.3 Logs

6. Modules and Packages
   6.1 Usage
   6.2 Namespaces
   6.3 Documentation
   6.4 Popular data science packages

Literature

Compulsory Reading

Further Reading

- Barry, P. (2016). Head first Python: A brain-friendly guide. Sebastopol, CA: O'Reilly Media, Inc.
- Kapil, S. (2019). Clean Python: Elegant coding in Python. Berkeley, CA: Apress.
- Lubanovic, B. (2019). Introducing Python (2nd ed.). Sebastopol, CA: O'Reilly.
- Lutz, M. (2013). Learning Python (5th ed.). Sebastopol, CA: O'Reilly.
- Matthes, E. (2015). Python crash course: A hands-on, project-based introduction to programming. San Fransisco, CA: No Starch Press.
- Müller, A. C., & Guido, S. (2016). Introduction to machine learning with Python: A guide for data scientists. Sebastopol, CA: O'Reilly Media, Inc.
- Ramalho, L. (2015). Fluent Python: Clear, concise, and effective programming. Sebastopol, CA: O'Reilly.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format On Campus

Study Format	Course Type
On Campus	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions

Object Oriented and Functional Programming in Python

Course Code: DLBDSOOFPP01

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

Course Description

This course builds upon basic knowledge of Python programming (Introduction to Programming with Python, DLBDSIPWP) and is concerned with the exposition of advanced Python programming concepts. To this end, important notions of object-oriented programming like classes and objects and pertaining design principles are outlined. Starting from an in-depth discussion of advanced features of Python functions, functional programming concepts and their implementation in Python are conveyed.

Course Outcomes

On successful completion, students will be able to

- explain basic notions in object-oriented programming such as functions and classes.
- understand object-oriented programming concepts and their relation to software design and engineering.
- describe advanced function concepts in Python.
- recognize important ideas from functional programming.
- recall important libraries for functional programming in Python.

Contents

- This course provides students with a thorough introduction to important notions and concepts from the domain of object-oriented programming such as classes, objects, abstraction, encapsulation, inheritance, polymorphism, composition, and delegation. Additionally, the functional programming paradigm and pertaining ideas like functions as first class objects, decorators, pure functions, immutability and higher order functions are conveyed. Pursuant to the portfolio course type, the aforementioned concepts and ideas are explored by hands-on programming projects.

Literature
Compulsory Reading
Further Reading ▪ Lott, S. F. (2018): Functional Python programming: Discover the power of functional programming, generator functions, lazy evaluation, the built-in itertools library, and monads. 2nd ed., Packt Publishing, Birmingham. ▪ Lutz, M. (2013): Learning Python. 5th ed., O'Reilly. ▪ Phillips, D. (2018): Python 3 object-oriented programming: Build robust and maintainable software with object-oriented design patterns in Python 3.8. 3rd ed., Packt Publishing. ▪ Ramalho, L. (2015): Fluent Python: Clear, concise, and effective programming. O'Reilly.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

International Brand Management and Corporate Communication

Module Code: DLBAMEIBMCC

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Josephine Zhou-Brock (International Brand Management) / Prof. Dr. Jonathan Black-Branch (Corporate Communication)

Contributing Courses to Module

- International Brand Management (DLBDSEIMB02)
- Corporate Communication (DLBPRWCCPR01_E)

Module Exam Type

Module Exam	Split Exam
	International Brand Management • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Corporate Communication • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

International Brand Management

- Basics of Brand Management
- Framework Conditions for Brands in International Markets
- Strategies and Concepts of international Brands
- Brand Architectures and Brand Extension Options
- Brand Management and Communication
- Brand Management According to the Stakeholder Concept
- Brand Control and Protection

Corporate Communication

- Corporate Identity
- Corporate Design
- Corporate Image
- Corporate Communication as a Sub-Discipline of Corporate Communications
- Differentiation from Public Relations

Learning Outcomes

International Brand Management

On successful completion, students will be able to

- recognize the significance of a brand and the general conditions under which brands operate, as well as the associated tasks of brand management.
- describe the components of a brand and its management.
- explain the positioning of brands on regional, national and international markets.
- understand the role of brand evaluation and compare the most common measurement techniques.
- give an overview of the importance of trademark protection and suggest strategies for preventing counterfeiting.
- conceive of brand strategies and measures for the avoidance or occurrence of brand crises.

Corporate Communication

On successful completion, students will be able to

- comprehend the essence of corporate identity, corporate design and corporate image, differentiate them from and relate them to one another.
- understand and explain corporate communication as a sub-discipline of corporate communications.
- distinguish corporate communication from public relations.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Marketing & Sales and Public Relations Management	All Bachelor Programmes in the Marketing & Communication fields

International Brand Management

Course Code: DLBDSEIMB02

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

Course Description

The aim of this course is to deepen and expand the knowledge acquired in the introductory elective course International Marketing. The value of a brand is a decisive competitive advantage for companies in international business. Brands create long-term and profitable customer relationships. Brands are therefore valuable assets for companies and organizations. Students learn the basics of brand management before moving on to the concepts and success factors of international brand management. Students also become familiar with the structure of brand architectures and the possibilities of brand extensions. The fact that different stakeholder groups must be taken into account in brand management is communicated to the students on the basis of the stakeholder concept. In addition, the students get to know the various methods for measuring brand value and brand controlling. The aspects of trademark protection that are particularly important in an international environment will be dealt with conclusively.

Course Outcomes

On successful completion, students will be able to

- recognize the significance of a brand and the general conditions under which brands operate, as well as the associated tasks of brand management.
- describe the components of a brand and its management.
- explain the positioning of brands on regional, national and international markets.
- understand the role of brand evaluation and compare the most common measurement techniques.
- give an overview of the importance of trademark protection and suggest strategies for preventing counterfeiting.
- conceive of brand strategies and measures for the avoidance or occurrence of brand crises.

Contents

1. Basics of Brand Management
    - 1.1 Brand Significance and Brand Understanding
    - 1.2 Market Conditions
    - 1.3 Tasks and Goals of Brand Management
2. Brand Identity, Brand Positioning, and Brand Personality
    - 2.1 Brand Identity as the Basis of Brand Management

- 2.2 Brand Positioning
- 2.3 Brand Image
- 2.4 Brand Personality

3. Brand Strategies
   - 3.1 The Challenges for Brand Strategies
   - 3.2 Brand Strategies for New Products
   - 3.3 Trademark Licensing

4. International Branding
   - 4.1 Importance of Branding for International Companies
   - 4.2 Brand Concepts for International Brands
   - 4.3 Factors for Successful International Brands

5. Brand Architectures and Types of Branding
   - 5.1 Brand Hierarchies
   - 5.2 Co-branding and Ingredient Branding

6. Brand Management and Communication
   - 6.1 Classic Brand Communication
   - 6.2 Brand Communication on the Internet

7. Brand Expansion
   - 7.1 Basics of Brand Extension
   - 7.2 Opportunities and Risks of Brand Extension
   - 7.3 Ideal Typical Sequence of the Brand Extension Process

8. Brand Management According to the Stakeholder Concept
   - 8.1 Basics of Brand Management According to the Stakeholder Principle
   - 8.2 Stakeholder Groups: Consumer Stakeholder Groups
   - 8.3 Stakeholder Groups: Shareholders and Financial Investors
   - 8.4 Stakeholder Groups: Employees
   - 8.5 Stakeholder Groups: Suppliers and the Public

9. Brand Control
   - 9.1 Basics of Brand Controlling
   - 9.2 Importance and Measurement of Brand Value
   - 9.3 Practical Methods for Measuring Brand Value

10. Trademark Protection
    - 10.1 Object of Trademark Protection
    - 10.2 Origin of Trademark Protection
    - 10.3 Trademark Infringements

Literature

Compulsory Reading

Further Reading

- Beverland, M. (2021). Brand management: Co-creating meaningful brands (2nd ed.). SagePublications Ltd.
- Burmann, C., Riley, N. M., Halaszovich, T., & Schade, M. (2017). Identity-based brand management:Fundamentals—strategy—implementation—controlling. Springer Gabler.
- Kapferer, J. N. (2012). The new strategic brand management: Advanced insights and strategicthinking (5th ed.). Kogan Page.
- Keller, K. L., & Swaminathan, V. (2019). Strategic brand management: Building, measuring, andmanaging brand equity (5th ed., Global ed.). Pearson.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Corporate Communication

Course Code: DLBPRWCCPR01_E

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

Course Description

In this course students are encouraged to fully grasp all internal and external communication activities of a company. Corporate communication is part of corporate identity and serves to communicate the corporate image. Here, for example, the focus can be on "sustainability" or "being hip". With the rise of saturated markets and global competition, the corporate image is becoming increasingly important. Corporate image and communication are increasingly becoming competitive advantages because it is becoming more and more difficult for companies to achieve and maintain product-related competitive advantages.This course combines targeted theoretical and strategic principles with practical knowledge of the content, methods, instruments and structures of corporate communication.

Course Outcomes

On successful completion, students will be able to

- comprehend the essence of corporate identity, corporate design and corporate image, differentiate them from and relate them to one another.
- understand and explain corporate communication as a sub-discipline of corporate communications.
- distinguish corporate communication from public relations.

Contents

1. Introduction to Corporate Communication
   - 1.1 Principles and Definitions
   - 1.2 Internal vs. External Corporate Communications
   - 1.3 Image Building and Brand Development
   - 1.4 Best Practice Examples in an International Context
2. Corporate Communication and PR
   - 2.1 Sub-Disciplines of Corporate Communications
   - 2.2 Differentiation from Public Relations
   - 2.3 Historical Development and Milestones
3. Corporate Philosophy as a Means of Corporate Management
   - 3.1 Corporate Soul

3.2 Corporate Language
3.3 Corporate Culture

4. Corporate Identity in Focus
   4.1 Visual Branding: Corporate Design
   4.2 Non-Visual Branding: Corporate Identity

5. Corporate Communication and Digitalization
   5.1 Challenges of Multi-Channel Communication
   5.2 Outlook: Trends and Developments in the Age of Digitalization

Literature

Compulsory Reading

Further Reading

- Argenti, P. A. (2022). Corporate communication (8th ed.). McGraw Hill.
- Brinkert, R., & Chewning, L. V. (2020). Strategic corporate communication: Core concepts for managing your career and your clients' brands. Cognella Academic Publishing.
- Cornelissen, J. P. (2017). Corporate communication: A guide to theory and practice (5th ed.). Sage Publications.
- Field, J. (2021). Influential internal communication: Streamline your corporate communication to drive efficiency and engagement. Kogan Page.
- Schneider, B., & Barbera, K. M. (2014). The Oxford handbook of organizational climate andculture. Oxford University Press.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Digital Market and Consumer Psychology

Module Code: DLBWPDMKP_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

N.N. (Digital Consumer Psychology) / N.N. (Project: Digital Methods in Market Research)

Contributing Courses to Module

- Digital Consumer Psychology (DLBWPDMKP01_E)
- Project: Digital Methods in Market Research (DLBWPDMKP02_E)

Module Exam Type

Module Exam	Split Exam
	Digital Consumer Psychology • Study Format "Distance Learning": Exam, 90 Minutes Project: Digital Methods in Market Research • Study Format "Distance Learning": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

Digital Consumer Psychology

- Digital customer approach
- Digital stimulus perception and processing
- Customer Journey
- Persuasion strategies

Project: Digital Methods in Market Research

A given industrial and organizational psychology topic is selected and, on the basis of intensive research, students consider which digital market research method can be used to investigate a related question. This course will be outlined and reflected accordingly.

Learning Outcomes

Digital Consumer Psychology

On successful completion, students will be able to

- track the customer journey of the omni-channel customer.
- understand aspects of stimulus perception and processing.
- compare persuasion strategies online and offline.
- classify different types of customers.

Project: Digital Methods in Market Research

On successful completion, students will be able to

- become familiar with digital market research methods.
- be able to choose and justify an appropriate method for a problem related to industrial and organizational psychology.
- be able to reflect on the advantages and disadvantages of different digital methods.
- understand the process of a market research project.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Psychology	All Bachelor Programs in the Social Sciences field

Digital Consumer Psychology

Course Code: DLBWPDMKP01_E

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

Course Description

In a digitalized world, the customer approach is also shifting more and more to various digital channels. The customer journey of the omni-channel customer already begins with the perception of stimuli. Interesting questions in this context are: which advertising messages are best perceived via which channels, where are customers most effectively picked up, what are the dangers of digital consumption options, what are the generational differences in perception, and which persuasion strategies have a greater effect online compared to offline? Accordingly, the focus of this course is on the psychology of the digital customer approach and retention, the differences between stationary and digital purchasing and payment behavior, and the segmentation of different consumer types.

Course Outcomes

On successful completion, students will be able to

- track the customer journey of the omni-channel customer.
- understand aspects of stimulus perception and processing.
- compare persuasion strategies online and offline.
- classify different types of customers.

Contents

1. Perception of Purchase Stimuli
   - 1.1 Bottom-up and Top-down Processes
   - 1.2 Information Availability
   - 1.3 Examples based on Digital Stimuli
2. The Digital Customer Journey
   - 2.1 Comparison offline-online Journey
   - 2.2 The Zero Moment of Truth Model
3. Persuasion Strategies
   - 3.1 Product Presentation Online versus Offline
   - 3.2 Persuasion Strategies according to Cialdini
   - 3.3 Application to Digital Examples

4. Price Perception
   - 4.1 Digital Payment Behavior
   - 4.2 Digital Price Perception
   - 4.3 Trust in Digital Providers

5. Shopping Addiction
   - 5.1 Definition
   - 5.2 Digital Sources of Danger

6. Segmentation of Customers
   - 6.1 Definition Purchase Types
   - 6.2 Differences between Generations X, Y and Z
   - 6.3 Future of Digital Customer Orientation

Literature

Compulsory Reading

Further Reading

- Cialdini, R. (2016). Pre-Suasion: A Revolutionary Way to Influence and Persuade, Simon & Schuster.
- Gunter, B. (2016). The Psychology of Consumer Profiling in a Digital Age, New York, Routledge.
- Lecinski, J. (2011). Winning the Zero Moment of Truth. Google book.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Project: Digital Methods in Market Research

Course Code: DLBWPDMKP02_E

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

Course Description

In the course of digitalization, market research methods have adapted accordingly, so that the needs of customers are no longer only recorded offline, but via online studies, mobile apps or digital scans. In this course, the latest digital market research methods will be researched. On the basis of a selected question related to industrial and organizational psychology, a decision will be made as to which method would be most suitable for investigating this question and which advantages and disadvantages this method could bring with it in comparison to others.

Course Outcomes

On successful completion, students will be able to

- become familiar with digital market research methods.
- be able to choose and justify an appropriate method for a problem related to industrial and organizational psychology.
- be able to reflect on the advantages and disadvantages of different digital methods.
- understand the process of a market research project.

Contents

- The more consumers spend time in digital spaces, the more their needs, opinions and the trends derived from them need to be captured digitally. In the meantime, in addition to traditional online surveys, there are various digital market research methods such as digital diary apps, digital footprint analysis, facial coding or the analysis of social media content. Which method is most suitable depends on the specific research question. This course offers the opportunity to select a question relevant to industrial and organizational psychology from a list of topics and to find a suitable digital market research for it, as well as to discuss the advantages and disadvantages of the respective digital method.

Literature
Compulsory Reading
Further Reading ▪ Homburg, M., Klarmann, M. & Vomberg, A. (2022). Handbook of Market Research, Springer. ▪ Leach, W. (2018). Marketing to Mindstates: The Practical Guide to Applying Behavior Design to Research and Marketing, Lioncrest. ▪ Ronan, G. (2017). The future of market research. Kindle Paperwhite.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Data Analyst

Module Code: DLBDSEDA

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Thomas Zöller (Advanced Data Analysis) / Prof. Dr. Frank Passing (Project: Data Analysis)

Contributing Courses to Module

- Advanced Data Analysis (DLBDSEDA01)
- Project: Data Analysis (DLBDSEDA02)

Module Exam Type

Module Exam	Split Exam
	Advanced Data Analysis • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Project: Data Analysis • Study Format "myStudies": Portfolio • Study Format "Distance Learning": Portfolio

Weight of Module

see curriculum

Module Contents

Advanced Data Analysis

- Business performance analytics
- Text mining
- Web- and social media analytics
- Experimentation and testing

Project: Data Analysis

Transfer of methodological knowledge to the implementation of real-world analytics use cases from the above-mentioned problem domains.

Learning Outcomes

Advanced Data Analysis

On successful completion, students will be able to

- identify important design considerations for business KPIs.
- explain various topics in business process analytics.
- utilize established techniques for web data analytics.
- understand analytical approaches to text mining and semantic analysis.
- disambiguate relevant questions in social media analytics.
- use the techniques and methods for experimentation and testing.

Project: Data Analysis

On successful completion, students will be able to

- formulate and implement a real-world analytical use case.
- analyze the suitability of different possible approaches with respect to the project task.
- transfer acquired specialized analytical knowledge to real-world use cases.
- derive relevant design choices from the given project setting.
- make apposite choices with respect to implementation alternatives.
- select appropriate resources

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Data Science & Artificial Intelligence	All Bachelor Programmes in the IT & Technology fields

Advanced Data Analysis

Course Code: DLBDSEDA01

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

Course Description

This course introduces several advanced analytics subjects of practical relevance. The subject areas covered span from business performance measurement and analytics, text mining, and web- and social media analytics to current trends in experimental design and setup. Along this journey topics such as the design of key performance indicators (KPIs), business process analytics, word frequency and semantic analysis, data science on clickstreams, social media interactions, and multi-armed bandit testing are addressed.

Course Outcomes

On successful completion, students will be able to

- identify important design considerations for business KPIs.
- explain various topics in business process analytics.
- utilize established techniques for web data analytics.
- understand analytical approaches to text mining and semantic analysis.
- disambiguate relevant questions in social media analytics.
- use the techniques and methods for experimentation and testing.

Contents

1. Business Performance Analytics
   - 1.1 KPI design considerations
   - 1.2 Common business performance indicators
   - 1.3 Business process mining
2. Text Analytics
   - 2.1 Word and document frequency (TF-IDF)
   - 2.2 Semantic analysis
3. Web Analytics
   - 3.1 Web metrics
   - 3.2 Clickstream analytics
   - 3.3 Recommender systems
4. Social Network Mining

4.1 Introduction to social media analytics
4.2 Mining common social media platforms

5. Testing and Experimentation
5.1 Practical A/B testing
5.2 Multivariate tests
5.3 Multi-armed bandit testing

Literature

Compulsory Reading

Further Reading

- Kaushik, A. (2009). Web analytics 2.0: The art of online accountability & science of customercentricity. Wiley.
- Lane, H., Howard, C., & Hapke, H. (2019). Natural language processing in action: Understanding,analyzing, and generating text with Python. Manning.
- Parmenter, D. (2019). Key performance indicators: Developing, implementing, and using winningKPIs (4th ed.). Wiley.
- Russell, M. A., & Klassen, M. (2019). Mining the social web: Data mining Facebook, Twitter, Linkedin,Instagram, Github, and more (3rd ed.). O'Reilly.
- Siroker, D., & Koomen, P. (2013). A/B testing: The most powerful way to turn clicks into customers.Wiley.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Project: Data Analysis

Course Code: DLBDSEDA02

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

Course Description

The focus of this course is the implementation of a real-world, advanced analytics use case in the form of a student project. Primary subject areas for this practical work include business performance analytics, text mining, web- and social analytics, and experimentation and testing.The goal is for students to demonstrate they can transfer the theoretical knowledge acquired in Advanced Data Analysis (DLBDSEDA01) to an implementation scenario that closely mimics project work in a professional data science setting.

Course Outcomes

On successful completion, students will be able to

- formulate and implement a real-world analytical use case.
- analyze the suitability of different possible approaches with respect to the project task.
- transfer acquired specialized analytical knowledge to real-world use cases.
- derive relevant design choices from the given project setting.
- make apposite choices with respect to implementation alternatives.
- select appropriate resources

Contents

- This course covers the practical implementation of the approaches and techniques covered in the course Advanced Data Analysis (DLBDSEDA01) in a project-oriented setting. Each participant must produce a project report detailing and documenting their work. Project tasks are chosen from a list or suggested by the students in accord with the tutor.

Literature
Compulsory Reading
Further Reading ▪ Hapke, H. / Howard, C. / Lane, H. (2019): Natural language processing in action.: Manning Publications, Shelter Island, NY. ▪ Klassen, M. / Russell, M. A. (2019): Mining the social web. 3rd edition. O'Reilly Media, Sebastopol, CA. ▪ Ojeda, T. / Bilbro, R. / Bengfort, B. (2018): Applied text analysis with Python. O'Reilly Media, Sebastopol, CA. ▪ Parmenter, D. (2020): Key performance indicators: Developing, implementing, and using winning KPIs. 3rd edition, John Wiley & Sons, Chichester.

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Portfolio

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Agile Software Engineering

Module Code: DLBDBEEASE

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	None	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Jörn Fahsel (Techniques and methods for agile software development) / Martin Ejeagwu (Project: Agile Software Engineering)

Contributing Courses to Module

- Techniques and methods for agile software development (IWNF01_E)
- Project: Agile Software Engineering (IWNF02_E)

Module Exam Type

Module Exam	Split Exam
	Techniques and methods for agile software development • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Project: Agile Software Engineering • Study Format "Distance Learning": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

Techniques and methods for agile software development

- Characteristics and Principles of Agility
- Agility in Small Teams With SCRUM
- Agile Project Management
- Agile Requirements and Software Architecture Management
- Agile Testing
- Agile Delivery and Deployment

Project: Agile Software Engineering

Realization and documentation of projects using agile techniques as well as consolidation of selected topics in the field of agile software development.

Learning Outcomes

Techniques and methods for agile software development

On successful completion, students will be able to

- analyse and evaluate problems and risks of industrial SW development and their consequences for development processes.
- know and understand the basic principles of No-Frills Software Engineering.
- analyse practical scenarios and independently apply suitable methods and tools of No-Frills Software Engineering.

Project: Agile Software Engineering

On successful completion, students will be able to

- address typical problems in various project situations through the targeted use of agile techniques and methods.
- document the design and project-specific use of techniques and tools.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Computer Science & Software Development	All Bachelor Programs in the IT & Technology field

Techniques and methods for agile software development

Course Code: IWNF01_E

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

Course Description

The goal of the course is to give students a deeper insight into the topic of agile software development. First of all, the basic characteristics and principles of agility are presented and discussed. Afterwards, it is shown how small projects and teams can use agile software engineering and how agile principles can be transferred and applied to large projects. Afterwards, agile techniques are taught for selected core activities in software engineering, with a focus on testing, delivery and deployment.

Course Outcomes

On successful completion, students will be able to

- analyse and evaluate problems and risks of industrial SW development and their consequences for development processes.
- know and understand the basic principles of No-Frills Software Engineering.
- analyse practical scenarios and independently apply suitable methods and tools of No-Frills Software Engineering.

Contents

1. Characteristics and Principles of Agility
   - 1.1 Features and Challenges of Software Projects
   - 1.2 Classification of Uncertainty
   - 1.3 Comparison of Agile and Classic Software Development
   - 1.4 Principles of Agility
2. Agility in Small Teams with Scrum
   - 2.1 Basics of SCRUM
   - 2.2 Central Management Artifact: Product Backlog
   - 2.3 Other Management Artifacts abd Tools
3. Agile Project Management
   - 3.1 Planning Levels in Agile Project Management

3.2 Agile Portfolio Management
3.3 Organization of Several Teams in One Project
3.4 Product and Release Planning

4. Agile Requirements and Software Architecture Management
4.1 Requirements Engineering in Agile Projects
4.2 Architecture Management in Agile Projects

5. Agile Testing
5.1 Basic Principles and Requirements for the Quality Assurance Organization
5.2 Test Levels and Agility
5.3 Test Automation

6. Agile Delivery and Deployment
6.1 Continuous Delivery Pipeline
6.2 Continuous Build and Continuous Integration
6.3 Acceptance Tests, Load Tests and Continuous Deployment

Literature

Compulsory Reading

Further Reading

- Biffl, S. et al. (Hrsg.) (2005): Value-Based Software Engineering. Springer, Berlin/Heidelberg.
- Highsmith, J. (2009): Agile Project Management: Creating Innovative Products. Addison Wesley, Upper Saddle River, NJ.
- Layton, M. C. (2012): Agile project management for dummies. John Wiley & Sons, New York, NY.
- Rubin, K. S. (2012): Essential Scrum: A Practical Guide to the Most Popular Agile Process. Addison Wesley, Upper Saddle River, NJ.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Project: Agile Software Engineering

Course Code: IWNF02_E

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

Course Description

Building on their knowledge of agile software development, students in this course independently implement projects in this subject area and document their results in the form of a written paper.

Course Outcomes

On successful completion, students will be able to

- address typical problems in various project situations through the targeted use of agile techniques and methods.
- document the design and project-specific use of techniques and tools.

Contents

- Implementation and documentation of a project using agile techniques as well as deepening of knowledge in the field of agile software development.

Literature

Compulsory Reading

Further Reading

- Beck, K., Beedle, M., Van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Grenning, J., Highsmith, J., Hunt, A., Jeffries, R., Kern, J., Marick, B., Martin, R. C., Mellor, S., Schwaber, K., Sutherland, J., & Thomas, D. (2001). Principles behind the Agile manifesto.
- Forsgren, N., Humble, J., & Kim, G. (2018) Accelerate: The Science Behind Devops: Building and Scaling High Performing Technology Organizations.
- Raps, S. J. (2017). Scrum of Scrums: Scaling up Agile to create efficiencies, reduce redundancies. Defense AT&L, 46(5), 34—37.
- Schwaber, K., & Sutherland, J. (2020). The Scrum guide. The definitive guide to Scrum: The rules of the game. Kenn Schwaber and Jeff Sutherland.
- Tanner, M., & Dauane, M. (2017). The use of Kanban to alleviate collaboration and communication challenges of global software development. Issues in Informing Science & Information Technology, 14, 177—197.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Global Corporations and Sourcing

Module Code: DLBLOGC1_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Sebastian Stütz (Global Corporations and Globalization) / Prof. Dr. Jonathan Black-Branch (Global Sourcing)

Contributing Courses to Module

- Global Corporations and Globalization (DLBLOGC101_E)
- Global Sourcing (DLBLOGC102_E)

Module Exam Type

Module Exam	Split Exam
	Global Corporations and Globalization • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes Global Sourcing • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Global Corporations and Globalization

- History and Development of Globalisation
- International Marketing
- International Operation
- International Personnel Management
- International Financing
- International Procurement and Distribution

Global Sourcing

- Make-or-buy decisions, in- & outsourcing strategies
- Procurement concepts, strategies and processes
- Conducting negotiations in purchasing:
- Procurement market research & analysis
- Information and communication technology in purchasing and procurement
- optimization of interfaces between purchasing and other corporate functions
- Organizational aspects of procurement

Learning Outcomes

Global Corporations and Globalization

On successful completion, students will be able to

- present the history of globalisation and identify and explain significant stages of development.
- identify and classify current trends in globalization and localization.
- recall basic knowledge in the fields of business administration, marketing and human resources management and extend it to meet the special requirements in internationally operating companies .
- explain offshoring and outsourcing and outline the opportunities and risks of these placements .
- explain the particularities of international procurement and distribution and develop resulting possibilities and limits.
- identify cultural differences and assess their significance for operating in international business.

Global Sourcing

On successful completion, students will be able to

- describe basic strategies, concepts and processes of global procurement and analyze, evaluate and apply them with a regard to potential fields of application.
- identify central planning principles and methods of purchasing and evaluate them with regard to their fields of application in practice and their scientific and methodological foundation.
- explain the operational and strategic importance of purchasing and procurement for the entire supply chain.
- name and apply methods and applications that are necessary for the planning and execution of purchasing and procurement processes or that can be used as control levers.
- independently identify, collect, analyze and evaluate data and information for specific procurement tasks
- work on practical tasks in a goal-oriented and efficient manner.
- design and carry out further studies with a scientific orientation in the field of purchasing and procurement under guidance.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programs in the Business & Management field

Global Corporations and Globalization

Course Code: DLBLOGC101_E

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

Course Description

Students grasp the mechanisms that led to globalization and can classify current trends both towards globalization and, conversely, towards localization. Building on the basic knowledge that students have acquired in general business studies about the basic functions in a company, this course analyses and discusses the special requirements that a global engagement places on a company and its functions.

Course Outcomes

On successful completion, students will be able to

- present the history of globalisation and identify and explain significant stages of development.
- identify and classify current trends in globalization and localization.
- recall basic knowledge in the fields of business administration, marketing and human resources management and extend it to meet the special requirements in internationally operating companies .
- explain offshoring and outsourcing and outline the opportunities and risks of these placements .
- explain the particularities of international procurement and distribution and develop resulting possibilities and limits.
- identify cultural differences and assess their significance for operating in international business.

Contents

1. History and Development of Globalisation
   - 1.1 Globalization v1.0 according to Niall Ferguson
   - 1.2 History of Globalisation
   - 1.3 Influencing Factors of Economic and Cultural Globalization
   - 1.4 The Tension between Globalization and Localization
   - 1.5 Social Aspects of Globalisation and Corporate Responsibility

2. International Marketing
   - 2.1 International Consumer Behaviour
   - 2.2 Market Research

2.3 Standardization and Adaptation
2.4 International Branding
2.5 Pricing Strategies
2.6 International Marketing Communications

3. International Operation
   3.1 Offshoring and Outsourcing
   3.2 Global Production Networks
   3.3 Global Logistics

4. International Personnel Management
   4.1 Local and International Personnel Management
   4.2 Expatriate Management
   4.3 Localization of Personnel
   4.4 International Human Resources Development

5. International Financing
   5.1 Institutions in the International World of Finance
   5.2 International Financing and its Procedures

6. International Procurement
   6.1 Reasons and Strategies of Global Sourcing
   6.2 Risks of International Procurement
   6.3 International Distribution Policy

Literature

Compulsory Reading

Further Reading

- Barmeyer, C., Bausch, M., Mayrhofer, U. (2021). Constructive Intercultural Management, Edward Elgar Publishing.
- Cateora, P.R., Money, R.B., Gilly, M. C., Graham, J.L. (2020). International Marketing (18th ed.). McGrawHill.
- Lasserre, P., Monteiro, F. (2018). Global strategic management (5th ed.). Bloomsbury Academic.
- Madura, J., Fox, R. (2020). International Financial Management (5th ed.). Cengage.
- Torrington, D., Hall, L., Taylor, S., Atkinson, C. (2020). Human resource management. Pearson.
- 2018 Lasserre, P., Monteiro, F. Global strategic management. Bloomsbury Academic.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Global Sourcing

Course Code: DLBLOGC102_E

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

Course Description

Students learn the basic concepts and methods of global procurement and global purchasing. They will study the operation of globally connected supply and logistics networks. Another aspect is the discussion of cultural peculiarities and specificities focusing on negotiations in an international context.The topics considered in the course are dealt with at both the strategic and the operational level with a view to the specific handling processes, necessary information flows, as well as legal and formal frameworks.

Course Outcomes

On successful completion, students will be able to

- describe basic strategies, concepts and processes of global procurement and analyze, evaluate and apply them with a regard to potential fields of application.
- identify central planning principles and methods of purchasing and evaluate them with regard to their fields of application in practice and their scientific and methodological foundation.
- explain the operational and strategic importance of purchasing and procurement for the entire supply chain.
- name and apply methods and applications that are necessary for the planning and execution of purchasing and procurement processes or that can be used as control levers.
- independently identify, collect, analyze and evaluate data and information for specific procurement tasks
- work on practical tasks in a goal-oriented and efficient manner.
- design and carry out further studies with a scientific orientation in the field of purchasing and procurement under guidance.

Contents

1. Basics
    - 1.1 Procurement in the Context of Internationalization
    - 1.2 Importance of Purchasing and Procurement in the Company
    - 1.3 Trends and Goals of Purchasing and Procurement
    - 1.4 National, Regional and Global Supply Networks
    - 1.5 Legal Framework Conditions on a National and International Level

9. Optimization Interfaces Between Purchasing and Other Corporate Functions
   - 9.1 Overview of Organizational Models
   - 9.2 Organizational Forms of Purchasing

10. Organizational Aspects of Procurement
   - 10.1 Variants of the Organizational Structure
   - 10.2 Decision-Making Aids

Literature

Compulsory Reading

Further Reading

- Helmold, M. (2020). Lean management and kaizen: Fundamentals from cases and examples in operations and supply chain management. Springer.
- Helmold, M., & Terry, B. (2016). Global sourcing and supply management excellence in China: Procurement guide for supply experts. Singapore Springer.
- Lane, H. W., & Maznevski, M. L. (2014). International management behavior: Global and sustainable leadership (7th ed.). Wiley.
- Lewin, A. Y. (2011). Trade in services: The global sourcing of business services. Emerald Group Publishing Limited.
- Tolbert, P. S., & Hall, R. H. (2016). Organizations structures, processes, and outcomes (10th ed.). Routledge Taylor & Francis Group.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Agile Management and Digital Entrepreneurship

Module Code: DLBDBEEAMDE

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. John Stanley (Agile Management) / Prof. Dr. Visieu Lac (Project: Digital Entrepreneurship)

Contributing Courses to Module

- Agile Management (DLBNWAM01_E)
- Project: Digital Entrepreneurship (DLBEPWDE01_E)

Module Exam Type

Module Exam	Split Exam
	Agile Management • Study Format "Distance Learning": Exam, 90 Minutes Project: Digital Entrepreneurship • Study Format "Distance Learning": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

Agile Management

- Introduction to Agile Management
- Drivers of Agility
- Agile Methods
- Agile Organization
- Agile Leadership
- Agile Planning
- Agile Staff Deployment
- Control in Agile Organizations
- Digital Tools as a Prerequisite for Agility
- Critical Reflection

Project: Digital Entrepreneurship

The basics of developing digital business models are taught and applied in practice.

Learning Outcomes

Agile Management

On successful completion, students will be able to

- explain the concept of agile management and name the basic principles as well as the drivers of agility.
- identify important concepts of agilitysuch as Scrum and Kanban and their characteristics.
- describe the basic principles of agile management and explain the influences of agility in relation to the functional management dimensions (organization, leadership, planning, staff deployment, control).
- understand the limits and risks of agility.

Project: Digital Entrepreneurship

On successful completion, students will be able to

- understand the meaning and alternatives of digital business models and apply them to a concrete business idea.
- design a new digital solution for a relevant problem taking into account new digital trends and technologies.
- analyze different digital business model options for the developed business idea and to select the most promising one with a digital market test and to calculate it as business planning.
- independently derive and explain the digital positioning of the business idea or digital start-up.
- develop digital distribution and marketing in line with the digital business idea.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Business Administration & Management	All Bachelor Programs in the Business & Management field

Agile Management

Course Code: DLBNWAM01_E

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

Course Description

Agility is a new concept that is found in both corporate practice and management literature as a key element of corporate and employee leadership. The course therefore aims for highlighting the meaning as well as the specifics of agile management and to give students an overview of the current state of discussion. The course defines the concepts of agility and agile management and addresses the drivers of agility and the agile concepts, including practical tools such as Scrum and Kanban. The course further defines the concept of management in terms of its functional dimensions (i.e. where management deals with a set of predefined tasks) in order to be able to make a distinction to the institutional dimension of management. Since agility should not be seen as a solution for all corporate issues as it can have its limitations and conflicts, the course concludes with a critical reflection on the influence of agility on the management functions "organization, leadership, planning, staff deployment and control". Agility is not equally suitable for all tasks and can be a health risk for very strongly intrinsically motivated employees. In addition, the simultaneous presence of agile thinking coupled with the hierarchical organizational principle often leads to conflicts that can result in productivity losses.

Course Outcomes

On successful completion, students will be able to

- explain the concept of agile management and name the basic principles as well as the drivers of agility.
- identify important concepts of agilitysuch as Scrum and Kanban and their characteristics.
- describe the basic principles of agile management and explain the influences of agility in relation to the functional management dimensions (organization, leadership, planning, staff deployment, control).
- understand the limits and risks of agility.

Contents

1. Introduction to Agile Management
    - 1.1 Introduction to the topic
    - 1.2 Definition of the term management
    - 1.3 Definition of the term agility
    - 1.4 Agility and Mindset

2. Drivers of Agility
   - 2.1 Agility in response to change
   - 2.2 External drivers for agility
   - 2.3 Internal drivers for agility

3. Agile Concepts
   - 3.1 Scrum
   - 3.2 Kanban
   - 3.3 Further agile methods

4. Agile Organization
   - 4.1 Concept of agile organization
   - 4.2 Self-organization as a core element
   - 4.3 Transformation and maturity model of the organization
   - 4.4 Transformer model for agile organizational development

5. Agile Leadership
   - 5.1 Changed role of the manager
   - 5.2 Concept and principles of agile leadership
   - 5.3 Self-management as a prerequisite for agility

6. Agile Planning
   - 6.1 Concept and principles of agile planning
   - 6.2 Agile Planning
   - 6.3 New planning methods

7. Agile Staff Deployment
   - 7.1 Concept and classification in the staff management process
   - 7.2 Agile strategic workforce planning
   - 7.3 Framework conditions for agile staff deployment

8. Control in Agile Organizations
   - 8.1 Concept and function of control
   - 8.2 Agility and control - a contradiction?
   - 8.3 Management control systems in change

9. Digital Tools as a Prerequisite for Agility
   - 9.1 Collaboration Tools
   - 9.2 New Technologies

10. Critical Reflection
    - 10.1 Agility as a panacea
    - 10.2 Agility as a health risk
    - 10.3 Agility and hierarchy

Literature

Compulsory Reading

Further Reading

- Moran, A. (2015). Managing Agile. Strategy, implementation, organisation, and people. Springer.
- Moreia, M. (2013). Being Agile: Your roadmap to successful adoption of Agile. Apress.
- Stellman, A., & Greene, J. (2014). Learning Agile. O'Reilly Media.

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Project: Digital Entrepreneurship

Course Code: DLBEPWDE01_E

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

Course Description

In this course, students learn to develop a digital start-up idea. In addition to learning the necessary methods, the students gain knowledge about the development and the conception of a digital business idea including the use of digital technologies, a digital business model as well as the digital distribution and marketing of the business idea. In order to use these insights directly for the practical application, a concrete digital business idea is developed by each student and will be presented in a project presentation.

Course Outcomes

On successful completion, students will be able to

- understand the meaning and alternatives of digital business models and apply them to a concrete business idea.
- design a new digital solution for a relevant problem taking into account new digital trends and technologies.
- analyze different digital business model options for the developed business idea and to select the most promising one with a digital market test and to calculate it as business planning.
- independently derive and explain the digital positioning of the business idea or digital start-up.
- develop digital distribution and marketing in line with the digital business idea.

Contents

- The course gives insights to develop a digital business idea. Relevant methods for the idea development will be applied to a concrete problem. The phases for developing the business model for the business project are the identification and evaluation of digital trends and technologies in relation to the defined problem, design and feasibility testing of the digital solution, the business model conception and calculation of the revenue potential as a digital business model as well as the marketing and distribution of the business idea via online channels and social media. The results will be presented and explained in the form of a project presentation, as it is usual for so-called "investor pitches" for digital start-ups. The project presentations will include the digital business idea including the problem definition and digital solution concept, the selected business model with corresponding calculation and the digital marketing and sales in the identified market. The digital business idea refers to a self-developed or fictitious business plan.

Literature
Compulsory Reading
Further Reading ▪ Kreutzer, R.T./Neugebauer, T./Pattloch, A. (2018): Digital Business Leadership: Digital Transformation, Business Model Innovation, Agile Organization, Change Management. Springer, Berlin. ▪ Weill, P. (2018): What's Your Digital Business Model?: Six Questions to Help You Build the Next-Generation Enterprise. Massachusetts Harvard Business Review Press, Boston. ▪ Gassmann, O./Frankenberger, K./Csik, M. (2017): The Business Model Navigator: 55 Models That Will Revolutionise Your Business. Financial Times Prent., London. ▪ Osterwalder, A./Pigneur, Y./Bernarda, G./Smith, A. (2014): Value Proposition Design: How to Create Products and Services Customers Want. Wiley & Sons, Inc. Hoboken, New Jersey

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Learning Material	**Exam Preparation**
☑ Slides	☑ Guideline

IT project and architecture management

Module Code: DLBCSEITPAM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Johannes Kent Walter (IT Project Management) / Prof. Dr. Sebastian Lempert (IT Architecture Management)

Contributing Courses to Module

- IT Project Management (DLBCSEITPAM01)
- IT Architecture Management (DLBCSEITPAM02)

Module Exam Type

Module Exam	Split Exam
	IT Project Management • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes IT Architecture Management • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

IT Project Management

- Basic terms and foundations of IT project management
- Large and small planning techniques
- Techniques for prioritization, cost-estimation, and project controlling
- Techniques for stakeholder, communication, and risk management
- Organization and structure in IT project management
- Schools of thought in IT project management

IT Architecture Management

- Basic terms and foundations of IT enterprise architectures management
- IT application portfolio management
- Architecture governance
- Modeling of IT enterprise architectures
- Frameworks using TOGAF as an example
- Reference models and sample catalogues

Learning Outcomes

IT Project Management

On successful completion, students will be able to

- explain and differentiate between the basic principles and tasks of IT project management.
- explain the important practical techniques and methods necessary for the implementation of IT project management.
- describe the basic procedural models and explain their advantages and disadvantages as well as their possible applications.
- identify possible project risks on the basis of given practical scenarios and select suitable measures from IT project management in order to minimize them in a targeted manner.

IT Architecture Management

On successful completion, students will be able to

- describe and explain the basic principles of IT strategy, governance, and architecture management, differentiating between them.
- explain and differentiate the typical activities of IT architecture management, their interrelationships, and their dependencies.
- explain suitable models of IT architecture management, distinguish between them, and explain their intended purpose.
- explain and describe selected IT architectural frameworks as well as reference models and sample catalogues.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Computer Science & Software Developement.	All Bachelor Programmes in the IT & Technology field.

IT Project Management

Course Code: DLBCSEITPAM01

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

Course Description

In this course, typical problems in the management of Software projects are discussed and the methods and techniques used to address challenges conveyed.In addition, standard procedural models for IT project management are explained and their strengths and weaknesses specifically identified.

Course Outcomes

On successful completion, students will be able to

- explain and differentiate between the basic principles and tasks of IT project management.
- explain the important practical techniques and methods necessary for the implementation of IT project management.
- describe the basic procedural models and explain their advantages and disadvantages as well as their possible applications.
- identify possible project risks on the basis of given practical scenarios and select suitable measures from IT project management in order to minimize them in a targeted manner.

Contents

1. Basics Terms and Foundations of IT Project Management
   - 1.1 Definition of a Project and Types of IT Projects
   - 1.2 IT Project Lifecycle
   - 1.3 Multi-Project Management – The Project in the Context of the Organization
2. Planning Techniques
   - 2.1 Large-Scale Planning: Milestones, Sub-tasks, and Work Packages
   - 2.2 Large-Scale Planning: Gantt Charts
   - 2.3 Planning and Organization of Work Packages: Kanban Board
3. Prioritization, Estimation of Costs, Project Controlling
   - 3.1 Prioritization
   - 3.2 Estimation of Costs
   - 3.3 Project Controlling

4. Stakeholder, Communication and Risk Management
   - 4.1 Stakeholder Management
   - 4.2 Communication Management
   - 4.3 Risk Management

5. Organization and Structure in IT Project Management
   - 5.1 Overview and Levels of Management from PRINCE2
   - 5.2 Management Processes in PRINCE2
   - 5.3 Pragmatic IT Project Management (PITPM)
   - 5.4 Configuration of an IT Project in PITPM
   - 5.5 Management of a project in PITPM

6. Schools of Thought in IT Project Management
   - 6.1 Agile Software Development
   - 6.2 Value-Based Software Engineering

Literature

Compulsory Reading

Further Reading

- Project Management Institute. (2021). A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Seventh Edition and The Standard for Project Management (ENGLISH): Vol. Seventh edition. Project Management Institute.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

IT Architecture Management

Course Code: DLBCSEITPAM02

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

Course Description

In addition to concrete IT projects, such as the development of a new IT system or the introduction of standard software, a strategic management system for organizational-wide IT infrastructure – that is, for all IT hardware and software systems – must be used.Strategic management is the responsibility of the IT enterprise architect, who operates IT architecture management. Their task is to strategically align IT infrastructure with an organization's business and IT strategy.This course covers the typical concepts, methods, procedures, and IT models of architecture management.

Course Outcomes

On successful completion, students will be able to

- describe and explain the basic principles of IT strategy, governance, and architecture management, differentiating between them.
- explain and differentiate the typical activities of IT architecture management, their interrelationships, and their dependencies.
- explain suitable models of IT architecture management, distinguish between them, and explain their intended purpose.
- explain and describe selected IT architectural frameworks as well as reference models and sample catalogues.

Contents

1. Basic Terms and Foundation for the Management of IT Enterprise Architectures
   - 1.1 IT Enterprise Architecture
   - 1.2 Goals of Enterprise Architecture Management
   - 1.3 Processes in the Management of IT Enterprise Architectures
2. IT Application Portfolio Management
   - 2.1 IT Application Portfolio Management Overview
   - 2.2 Application Manual
   - 2.3 Portfolio Analysis
   - 2.4 Development Planning
3. Architecture Governance

3.1 Organizational Structure
3.2 Policy Development and Enforcement
3.3 Project Support

4. Modeling of IT Enterprise Architectures
4.1 Models in the Context of IT Architecture Management
4.2 Forms of Documentation for Processes and Applications
4.3 Forms of Documentation for Systems and Technologies

5. Frameworks Using the Example of TOGAF
5.1 Fundamentals and Use of IT Architecture Frameworks
5.2 Overview and Categories of EAM Frameworks
5.3 The Open Group Architecture Framework (TOGAF)

6. Reference Models and Sample Catalogues
6.1 Architecture Reference Models
6.2 EAM Design Sample Catalogue

Literature

Compulsory Reading

Further Reading

- Ahlemann, F., Messerschmidt, M., Stettiner, E., & Legner, C. (2012). Strategic enterprise architecture management. Challenges, best practices, and future developments. Springer-Verlag.
- Perroud, T., & Inversini, R. (2013). Enterprise architecture patterns: Practical solutions for recurring IT-architecture problems. Springer.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Business Intelligence

Module Code: DLBCSEBI

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimaldauer: 1 Semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Maik Drozdzynski (Business Intelligence) / Prof. Dr. Neil Arvin Bretana (Project: Business Intelligence)

Contributing Courses to Module

- Business Intelligence (DLBCSEBI01)
- Project: Business Intelligence (DLBCSEBI02)

Module Exam Type

Module Exam	Split Exam
	Business Intelligence • Study Format "Distance Learning": Exam, 90 Minutes Project: Business Intelligence • Study Format "Distance Learning": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

Business Intelligence

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

Project: Business Intelligence

Possible topics for the BI project include “Management of BI projects”, “Design of multidimensional data models” and “Prototypical implementation of small BI applications”.

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.

Project: Business Intelligence

On successful completion, students will be able to

- independently design a solution to a practical problem in the field of Business Intelligence in order to then implement a prototype and document the results.
- identify and explain typical problems and challenges in the design and practical implementation of small BI solutions.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Computer Science & Software Development	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.
- Sharda, R., Delen, D., & Turban, E. (2015). Business intelligence and analytics: Systems for decision support. 10th Edition. Pearson.
- Sherman, R. (2014). Business intelligence guidebook: From data integration to analytics. Morgan Kaufmann.
- Vaisman, A., & Zimányi, E. (2022). Data warehouse systems: Design and implementation. Springer.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Project: Business Intelligence

Course Code: DLBCSEBI02

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

Course Description

Using well-known methods and techniques from the field of Business Intelligence, students will work independently on a practical question in this course.At the end of the course you will be able to independently design and prototype Business Intelligence applications based on concrete requirements.

Course Outcomes

On successful completion, students will be able to

- independently design a solution to a practical problem in the field of Business Intelligence in order to then implement a prototype and document the results.
- identify and explain typical problems and challenges in the design and practical implementation of small BI solutions.

Contents

- Implementation and documentation of practical questions regarding the use of Business Intelligence applications. Typical scenarios are, for example, “Management of BI projects”, “Design of multidimensional data models” and “Prototypical implementation of small BI applications”.

Literature

Compulsory Reading

Further Reading

- Christoph Meinel, Hasso Plattner, Larry Leifer (2011): Design Thinking: Understand – Improve – Apply; Springer Berlin Heidelberg
- Jeanne Liedtka (2018): Why Design Thinking Works. In: Havard Business Review, Issue: 2018/09, pp.72–79
- Christoph Meinel, Larry J. Leifer (2021): Design Thinking Research: Interrogating the Doing; Springer International Publishing

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Salesforce Platform Management

Module Code: DLSFPM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Thomas Bolz (Salesforce Fundamentals) / Prof. Dr. Thomas Bolz (CRM with Salesforce Service Cloud)

Contributing Courses to Module

- Salesforce Fundamentals (DLSFPM01)
- CRM with Salesforce Service Cloud (DLSFPM02)

Module Exam Type

Module Exam

Split Exam

Salesforce Fundamentals

- Study Format "Distance Learning": Written Assessment: Project Report
- Study Format "myStudies": Written Assessment: Project Report
- Study Format "Duales myStudium": Written Assessment: Project Report

CRM with Salesforce Service Cloud

- Study Format "Distance Learning": Oral Project Report
- Study Format "Duales myStudium": Oral Project Report
- Study Format "myStudies": Oral Project Report

Weight of Module
see curriculum

Module Contents

Salesforce Fundamentals

Using the learning platform trailhead students will learn the fundamentals of Salesforce. At the end of the course students will be able to administer the Salesforce platform. This module prepares them for the Salesforce administrator certification.

CRM with Salesforce Service Cloud

Using the learning platform trailhead students will learn how to manage customer relationships with Salesforce platform. At the end of the course they will be able to manage the Salesforce service cloud. This module prepares students for the Salesforce service cloud certification.

Learning Outcomes

Salesforce Fundamentals

On successful completion, students will be able to

- define what Salesforce and customer relationship management is.
- describe and compare the different options for importing and exporting data in Salesforce.
- create reports and visualize key business metrics in real-time in Salesforce.
- create a simple Salesforce app.
- control access to data using security tools in Salesforce.

CRM with Salesforce Service Cloud

On successful completion, students will be able to

- set up customer service with Salesforce service cloud.
- lead a customer service team in the digital era.
- create digital engagement on multiple channels.
- define service cloud goals and metrics.
- automate case management.
- improve customer service using artificial intelligence.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Marketing & Sales	All Bachelor Programmes in the Marketing & Communication fields

Salesforce Fundamentals

Course Code: DLSFPM01

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

Course Description

Salesforce is the most used software solution for customer relationship management worldwide. Using the learning platform trailhead students will learn independently the fundamentals of Salesforce. The course introduces Salesforce and explains how to administrate it. Additionally, it presents essentials of the Salesforce platform.

Course Outcomes

On successful completion, students will be able to

- define what Salesforce and customer relationship management is.
- describe and compare the different options for importing and exporting data in Salesforce.
- create reports and visualize key business metrics in real-time in Salesforce.
- create a simple Salesforce app.
- control access to data using security tools in Salesforce.

Contents

- The content on the learning platform focuses on the features and the functionality used to maintain a Salesforce implementation. It provides general knowledge of the features available to end users and the configuration options available to a Salesforce administrator. Furthermore, the content enables to maintain a Salesforce organization, respond to common business requirements, and perform administrative functions using current Salesforce features.

Literature

Compulsory Reading

Further Reading

- Eason, J. (2014): Android Studio 1.0. (URL: http://android-developers.blogspot.de/2014/12/android-studio-10.html [accessed: 22.04.2016]).

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

CRM with Salesforce Service Cloud

Course Code: DLSFPM02

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

Course Description

This course facilitates key aspects of setting up customer service with Salesforce service cloud on the learning platform trailhead. The course describes how to implement Salesforce service cloud and manage it. It enables to make better business decisions based on customer service data and to create a service metrics strategy. The course shows how to create processes to help support teams become more efficient and manage large data volumes within Salesforce and prepares students for the Salesforce service cloud certification.

Course Outcomes

On successful completion, students will be able to

- set up customer service with Salesforce service cloud.
- lead a customer service team in the digital era.
- create digital engagement on multiple channels.
- define service cloud goals and metrics.
- automate case management.
- improve customer service using artificial intelligence.

Contents

- The content on the learning platform focuses on designing and deploying solutions that support customer business processes and requirements using Salesforce applications. The content enables to design solutions using the Service Cloud functionality and to lead the implementation of these solutions within a customer organization.

Literature

Compulsory Reading

Further Reading

- Eason, J. (2014): Android Studio 1.0. (URL: http://android-developers.blogspot.de/2014/12/android-studio-10.html [accessed: 22.04.2016]).

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Smart Mobility

Module Code: DLBINGSM_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Dorian Mora (Smart Mobility I) / Prof. Dr. Dorian Mora (Smart Mobility II)

Contributing Courses to Module

- Smart Mobility I (DLBINGSM01_E)
- Smart Mobility II (DLBINGSM02_E)

Module Exam Type

Module Exam	Split Exam
	Smart Mobility I • Study Format "Distance Learning": Exam, 90 Minutes Smart Mobility II • Study Format "Distance Learning": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

Smart Mobility I

- Introduction and Definitions
- Overview over traditional mobility infrastructure approaches
- Alternative approaches to mobility
- Services for smart mobility
- Overview over relevant technologies and standards
- Car2X Communication
- Examples and use-cases

Smart Mobility II

In-depth analysis of a specific topic in the context of Smart Mobility in form of a prototype report.

Learning Outcomes

Smart Mobility I

On successful completion, students will be able to

- remember several types of mobility.
- understand distinct reasons for designing intelligent mobility systems.
- analyze diverse types of mobility infrastructure regarding their properties and access requirements.
- understand various alternative mobility approaches.
- remember a range of services that relevant for Smart Mobility.
- understand the relevant technologies and standards for connecting infrastructure elements and services.
- understand use cases for Car2X communication and the relevant standards and technologies.
- remember example projects in the context of Smart Mobility.

Smart Mobility II

On successful completion, students will be able to

- have an in-depth understanding of the technologies and standards in the context of Smart Mobility.
- apply technologies in the context of Smart Mobility using a simple practical example.
- design a hardware or software prototype for a selected task.
- document design choices and development tasks in the form of a project report.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Computer Science & Software Development	All Bachelor Programs in the IT & Technology fields

Smart Mobility I

Course Code: DLBINGSM01_E

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

Course Description

This course gives an introduction and overview into the future of mobility. Starting from an understanding of traditional and current mobility infrastructure, alternative approaches are introduced. The course discusses a range of services that are typical for smart mobility solutions. The course includes a detailed discussion on technologies and standards relevant for smart mobility, in particular in Car2X communication. A range of projects and examples are discussed to illustrate the application of smart mobility approaches in a real-life context.

Course Outcomes

On successful completion, students will be able to

- remember several types of mobility.
- understand distinct reasons for designing intelligent mobility systems.
- analyze diverse types of mobility infrastructure regarding their properties and access requirements.
- understand various alternative mobility approaches.
- remember a range of services that relevant for Smart Mobility.
- understand the relevant technologies and standards for connecting infrastructure elements and services.
- understand use cases for Car2X communication and the relevant standards and technologies.
- remember example projects in the context of Smart Mobility.

Contents

1. Introduction and Definitions
    - 1.1 Types of Mobility
    - 1.2 Smart Mobility and Smart City
    - 1.3 Efficient use of energy
    - 1.4 Emissions
    - 1.5 Security
    - 1.6 Comfort
    - 1.7 Cost Effectiveness
2. Overview over traditional mobility infrastructure approaches

- 2.1 Properties and Access Requirements
- 2.2 Infrastructure Planning
- 2.3 Disadvantages of Isolated Infrastructures

3. Alternative approaches to mobility
   - 3.1 Park and Ride
   - 3.2 Car-Sharing
   - 3.3 Rent A Bike
   - 3.4 Carpooling

4. Services for smart mobility
   - 4.1 Authorization
   - 4.2 Payment
   - 4.3 Booking
   - 4.4 Navigation
   - 4.5 Security
   - 4.6 Hybrid Services

5. Overview over relevant technologies and standards
   - 5.1 Mobile Devices
   - 5.2 Mobile Networks and Wireless LAN
   - 5.3 NFC and RFID
   - 5.4 Outdoor and Indoor Localization
   - 5.5 Technologies for Traffic Monitoring

6. Car2X Communication
   - 6.1 Use Cases
   - 6.2 Elements of a Car2X System
   - 6.3 Technologies and Standards
   - 6.4 Sample Implementations

7. Examples and use-cases
   - 7.1 Octopus (Hong Kong)
   - 7.2 Amsterdam Practical Trial
   - 7.3 Mobincity

Literature
Compulsory Reading
Further Reading ▪ Fluegge, B. (2017): Smart Mobility – Connecting Everyone: Trends, Concepts and Best Practices Paperback. Springer/Vierweg, Wiesbaden. ▪ Handke, V./Jonuschat, H. (2013): Flexible Ridesharing. New Opportunities and Service Concepts for Sustainable Mobility. Springer, Berlin/Heidelberg. ▪ Inderwildi, O./King, D. (Eds.) (2012): Energy, Transport, & the Environment. Addressing the Sustainable Mobility Paradigm. Springer, London. ▪ Nathanail, E./Karakikes, I. (2018): Data Analytics: Paving the Way to Sustainable Urban Mobility: Proceedings of 4th Conference on Sustainable Urban Mobility (CSUM2018). Springer, London. ▪ Papa, R./Fistola, R./Gargiulo, C. (2018): Smart Planning: Sustainability and Mobility in the Age of Change (Green Energy and Technology). Springer, London. ▪ Planing, P. et al (2020): Innovations for Metropolitan Areas: Intelligent Solutions for Mobility, Logistics and Infrastructure designed for Citizens. Springer, London. ▪ Sashinskaya, M. (2015): Smart Cities in Europe. Open Data in a Smart Mobility Context. Createspace Independent Publishing Platform.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Smart Mobility II

Course Code: DLBINGSM02_E

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

Course Description

In the course Smart Mobility II, students are asked to choose an assignment provided by the course tutor to apply the concepts and methods covered in Smart Mobility I in a specific use case or application area. The students will develop a prototype focused on a specific topic related to smart mobility. The prototype can be developed either as a hardware setup or a software solution. The students document their results in a project report.

Course Outcomes

On successful completion, students will be able to

- have an in-depth understanding of the technologies and standards in the context of Smart Mobility.
- apply technologies in the context of Smart Mobility using a simple practical example.
- design a hardware or software prototype for a selected task.
- document design choices and development tasks in the form of a project report.

Contents

- A catalogue with currently available assignments is provided on the online learning platform. It provides the content basis of the module and can be supplemented or updated by the tutor.

Literature

Compulsory Reading

Further Reading

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Studium Generale

Module Code: DLBSG_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

N.N. (Studium Generale I) / N.N. (Studium Generale II)

Contributing Courses to Module

- Studium Generale I (DLBSG01_E)
- Studium Generale II (DLBSG02_E)

Module Exam Type

Module Exam	Split Exam
	Studium Generale I • Study Format "myStudies": See Selected Course • Study Format "Distance Learning": See Selected Course Studium Generale II • Study Format "Distance Learning": See Selected Course • Study Format "myStudies": See Selected Course

Weight of Module

see curriculum

Module Contents

Studium Generale I

In principle, all IU bachelor courses can be selected as courses for the "Studium Generale", so that the content can be chosen from the entire breadth of the IU distance learning program.

Studium Generale II

In principle, all IU bachelor courses can be selected as courses for the "Studium Generale", so that the content can be chosen from the entire breadth of the IU distance learning program.

Learning Outcomes

Studium Generale I

On successful completion, students will be able to

- apply acquired key competencies to issues in their field of study and/or in their professional environment.
- to deepen one's own skills and abilities in a self-directed manner.
- to look beyond the boundaries of their own area of expertise.

Studium Generale II

On successful completion, students will be able to

- apply acquired key competencies to issues in their field of study and/or in their professional environment.
- to deepen one's own skills and abilities in a self-directed manner.
- to look beyond the boundaries of their own area of expertise.

Links to other Modules within the Study Program	Links to other Study Programs of the University
It is a stand-alone offering with possible references to various required and elective modules	All IU Distance Learning Bachelor Programs

Studium Generale I

Course Code: DLBSG01_E

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

Course Description

In the course "Studium Generale I", students deepen their knowledge in a self-selected subject area by completing an IU course outside their applicable curriculum. This gives them the opportunity to look beyond their own subject area and acquire further competencies. The associated option enables students to self-determine their study content to focus even more on issues relevant to them and/or to strengthen or develop selected competencies.

Course Outcomes

On successful completion, students will be able to

- apply acquired key competencies to issues in their field of study and/or in their professional environment.
- to deepen one's own skills and abilities in a self-directed manner.
- to look beyond the boundaries of their own area of expertise.

Contents

- The course "Studium Generale I" offers students the opportunity to take courses outside of their curriculum and the result can be credited as an elective subject. In principle, all IU bachelor courses that fulfill the following requirements are creditable for this purpose:
  - They are not part of an integral part of the applicable mandatory curriculum.
  - They do not have admission requirements or students can prove that they have met the admission requirement.
- The examination of the selected courses must be taken in full and finally passed in order to be credited as part of the 'Studium Generale' .

Literature

Compulsory Reading

Further Reading

- See course description of the selected course

Study Format myStudies

Study Format	Course Type
myStudies	See Selected Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	See Selected Course

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
0 h	0 h	0 h	0 h	0 h	0 h

Instructional Methods
see selected course

Study Format Distance Learning

Study Format	Course Type
Distance Learning	See Selected Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	See Selected Course

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
0 h	0 h	0 h	0 h	0 h	0 h

Instructional Methods
See Selected Course

Studium Generale II

Course Code: DLBSG02_E

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

Course Description

In the course "Studium Generale II", students deepen their knowledge in a self-selected subject area by completing an IU course outside their applicable curriculum. This gives them the opportunity to look beyond their own subject area and acquire further competencies. The associated option enables students to self-determine their study content to focus even more on issues relevant to them and/or to strengthen or develop selected competencies.

Course Outcomes

On successful completion, students will be able to

- apply acquired key competencies to issues in their field of study and/or in their professional environment.
- to deepen one's own skills and abilities in a self-directed manner.
- to look beyond the boundaries of their own area of expertise.

Contents

- The course "Studium Generale II" offers students the opportunity to take courses outside of their curriculum and the result can be credited as an elective subject. In principle, all IU bachelor courses that fulfill the following requirements can be chosen for this purpose:
  - They are not part of an integral part of the applicable mandatory curriculum.
  - They do not have admission requirements or students can prove that they have met the admission requirement.
- The examination of the selected courses must be taken in full and finally passed in order to be credited as part of the 'Studium Generale' .

Literature

Compulsory Reading

Further Reading

- See course description of the selected course

Study Format Distance Learning

Study Format	Course Type
Distance Learning	See Selected Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	See Selected Course

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
0 h	0 h	0 h	0 h	0 h	0 h

Instructional Methods
See Selected Course

Study Format myStudies

Study Format	Course Type
myStudies	See Selected Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	See Selected Course

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
0 h	0 h	0 h	0 h	0 h	0 h

Instructional Methods

Salesforce Platform Development

Module Code: DLSFPD

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Thomas Bolz (Salesforce Platform App Builder) / Prof. Dr. Thomas Bolz (Salesforce Platform Developer)

Contributing Courses to Module

- Salesforce Platform App Builder (DLSFPD01)
- Salesforce Platform Developer (DLSFPD02)

Module Exam Type

Module Exam	Split Exam
	Salesforce Platform App Builder • Study Format "Duales myStudium": Written Assessment: Project Report • Study Format "myStudies": Written Assessment: Project Report • Study Format "Distance Learning": Written Assessment: Project Report Salesforce Platform Developer • Study Format "Distance Learning": Oral Project Report • Study Format "Duales myStudium": Oral Project Report • Study Format "myStudies": Oral Project Report

Weight of Module
see curriculum

Module Contents

Salesforce Platform App Builder

Using the learning platform Trailhead students will learn the fundamentals of Salesforce. At the end of the course, the students will be able to design, build and deploy custom applications. This course prepares them for the Salesforce Platform App Builder Certification.

Salesforce Platform Developer

Using the learning platform Trailhead students will learn how to develop own applications, built from various parts of the Salesforce platform. At the end of the course they will be able to use Apex, Visualforce and basic Lightning components. This course prepares the students for the Salesforce Platform Developer I Certification.

Learning Outcomes

Salesforce Platform App Builder

On successful completion, students will be able to

- define what Salesforce and customer relationship management is,
- design the data model, user interface, and business logic for custom applications,
- customize applications for mobile use,
- design reports and dashboards,
- manage application security and deploy custom applications.

Salesforce Platform Developer

On successful completion, students will be able to

- develop own applications using Apex and basic Lightning components,
- write SOSL, SOQL and DML statements,
- use Visualforce to build custom user interfaces for mobile and web apps,
- build reusable, performant components that follow modern web standards,
- use the built-in testing framework to test Apex and Visualforce.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Marketing & Sales	All Bachelor Programs in the Marketing & Communication field

Salesforce Platform App Builder

Course Code: DLSFPD01

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

Course Description

Salesforce is the most used software solution for customer relationship management worldwide. This solution can be customized and personalized for the needs of customers, partners and employees. Using the learning platform Trailhead, students will learn independently the fundamentals of Salesforce and the development of customized application. This course prepares students for the Salesforce Platform App Builder Certification.

Course Outcomes

On successful completion, students will be able to

- define what Salesforce and customer relationship management is,
- design the data model, user interface, and business logic for custom applications,
- customize applications for mobile use,
- design reports and dashboards,
- manage application security and deploy custom applications.

Contents

- The content on the learning platform focuses on the features and functionality to design, build and deploy custom applications. The content also provides knowledge to define business logic and process automation declaratively. Furthermore, the design and management of the correct data models and the customization of applications for individual needs is included in this course. Thus, the content of this course enables to automate repetitive tasks and to optimize processes in customer organizations.

Literature
Compulsory Reading
Further Reading ▪ Gupta, R. (2019): Salesforce Platform App Builder Certification. A Practical Study Guide. 1st ed., Apress. ▪ Weinmeister, P. (2019): Practical Salesforce Development Without Code. Building Declarative Solutions on the Salesforce Platform. 2nd ed., Apress, Berkeley. ▪ Shaalan, S. (2020): Salesforce for Beginners. A step-by-step guide to creating, managing, and automating sales and marketing processes. Packt Publishing, Birmingham. ▪ Benioff, M./Langley, M. (2019): Trailblazer. The Power of Business as the Greatest Platform for Change. 1st ed.

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Salesforce Platform Developer

Course Code: DLSFPD02

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

Course Description

The Salesforce platform not only forms the foundation of core Salesforce products like Sales Cloud and Service Cloud, but it is also possible to build own functionalities and own applications. Using the learning platform Trailhead, students will learn how to use the programmatic pillars of the Salesforce platform: Lightning components, Apex and Visualforce. This course prepares students for the Salesforce Platform Developer I Certification.

Course Outcomes

On successful completion, students will be able to

- develop own applications using Apex and basic Lightning components,
- write SOSL, SOQL and DML statements,
- use Visualforce to build custom user interfaces for mobile and web apps,
- build reusable, performant components that follow modern web standards,
- use the built-in testing framework to test Apex and Visualforce.

Contents

- The content on the learning platform focuses on the development of own functionality and own applications, built from various parts of the Salesforce platform. The content enables to use the programmatic elements Lightning components, Apex and Visualforce. Furthermore, knowledge is provided for data modeling, process automation, user interface design, testing and deployment. Thus, the content of this course enables to extend Salesforce by individual applications to cover the needs in customer organizations.

Literature

Compulsory Reading

Further Reading

- Salesforce (2020): Developer Documentation. (URL: https://developer.salesforce.com/docs/ [accessed: 12.12.2020])

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Supply Chain Management

Module Code: DLBDSESCM

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Alex Leberling (Supply Chain Management I) / Sebastian Stütz (Supply Chain Management II)

Contributing Courses to Module

- Supply Chain Management I (DLBDSESCM01)
- Supply Chain Management II (DLBDSESCM02)

Module Exam Type

Module Exam	Split Exam
	Supply Chain Management I • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Supply Chain Management II • Study Format "myStudies": Exam or Advanced Workbook, 90 Minutes • Study Format "Distance Learning": Exam or Advanced Workbook, 90 Minutes

Weight of Module

see curriculum

Module Contents

Supply Chain Management I

- Historical and terminological aspects of the SCM concept
- Motives for the creation of cross-company value creation networks
- Design principles and effects of value creation networks
- Logistical core processes and SCM
- Information technology aspects of the SCM concept
- Coordination and collaboration of the network partners
- Industry-specific solutions of the SCM

Supply Chain Management II

- Strategic aspects of SCM
- SCM Practice: Tasks and Activities in the Core Planning Process
- SCM Practice: Tasks and Activities in the Core Process of Procurement
- SCM Practice: Tasks and Activities in the Core Process Production
- SCM Practice: Tasks and Activities in the Core Distribution Process

Learning Outcomes

Supply Chain Management I

On successful completion, students will be able to

- explain the importance of cross-company value creation processes.
- understand common concepts for modeling cross-company value creation processes.
- understand dynamic effects in supply chains and can systematize their causes and effects.
- explain important theoretical concepts for describing the characteristics and challenges of cross-company value creation processes.
- explain the approaches and problem categories commonly used in the context of supply chain management.
- understand important reference and/or management models for the concretization of supply chain systems.
- name and detail important roles and tasks in the SCM network.
- deal with the coordination problem of SCM and describe the common solution approaches.

Supply Chain Management II

On successful completion, students will be able to

- systematically explain the strategic relevance of enterprise-wide value creation processes.
- understand the most important tasks and problems in the SCM core process planning.
- systematize the elements and interrelationships in the CPFR model in a differentiated way.
- be familiar with the characteristics and peculiarities of contract logistics.
- understand the most important tasks and problems in the SCM core process procurement.
- explain central elements and characteristics of a procurement strategy.
- understand the most important tasks and problems in the SCM core process production.
- explain central elements and characteristics of a modern production strategy.
- understand the most important tasks and problems in the SCM core process distribution.
- explain central elements and characteristics of the so-called ECR concept.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the fields of Logistics & Transportation	All Bachelor Programmes in the Transport & Logistics fields

Supply Chain Management I

Course Code: DLBDSESCM01

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

Course Description

SCM proves to be an extremely multi-faceted construct from both a theoretical and a practical point of view. An adequate understanding of the problem dimensions and modes of action of (global) cross-company value creation networks requires a multidimensional approach. It starts by considering logistical processes, with modern process, flow, and network standards forming an important basis for SCM. On the basis of such an approach, students should gain a fundamental understanding of SCM. From the point of view of a holistic approach, it also makes sense to also examine a number of other typical problem areas in addition to the logistical challenges of this concept. This includes IT aspects of SCM (e.g., APS systems), and questions to do with the collaboration and coordination of network partners. This course also considers selected industry specific SCM solutions (ECR or VMI).

Course Outcomes

On successful completion, students will be able to

- explain the importance of cross-company value creation processes.
- understand common concepts for modeling cross-company value creation processes.
- understand dynamic effects in supply chains and can systematize their causes and effects.
- explain important theoretical concepts for describing the characteristics and challenges of cross-company value creation processes.
- explain the approaches and problem categories commonly used in the context of supply chain management.
- understand important reference and/or management models for the concretization of supply chain systems.
- name and detail important roles and tasks in the SCM network.
- deal with the coordination problem of SCM and describe the common solution approaches.

Contents

1. Fundamentals of the Supply Chain Concept
    - 1.1 Terminological and Conceptual Fundamentals
    - 1.2 Supply Chain Typology According to Otto
    - 1.3 Supply Chain Typology According to Bechtel/Jayaram
    - 1.4 Dynamic Aspects of Supply Chains

2. Selected Theoretical Concepts for the Supply Chain Concept
   - 2.1 New Institutional Economics
   - 2.2 Game Theory
   - 2.3 Network Approach
   - 2.4 Other Theoretical Additions

3. Supply Chain Management
   - 3.1 Basic Information on the Goals and Scope of SCM
   - 3.2 Popular Problem Areas of the SCM
   - 3.3 Supply Chain Management as an Evolutionary Step in Logistics
   - 3.4 Supply Chain Management as Cooperation Management

4. SCM Model
   - 4.1 Basic Information on the Term SCM Models
   - 4.2 SCOR Model
   - 4.3 SCM Task Model

5. SCM as a Coordination Problem
   - 5.1 Basic Information on the Concept of Coordination
   - 5.2 Coordination Concepts, Context, and Perspectives of SCM
   - 5.3 Coordination Instruments

Literature

Compulsory Reading

Further Reading

- Bowersox, J., Closs, D., & Cooper, M. B. (2020). Supply chain logistics management (5th ed.). McGraw Hill Education.
- Chopra, S., & Meindl, P. (2019). Supply chain management: Strategy, planning, and operation (7th ed., Global ed.). Pearson Education.
- Es-Satty, Asmaa; Lemghari, Radouane; Okar, Chafik. (2020). Supply Chain Digitalization Overview SCOR model implication. In: 2020 IEEE 13th International Colloquium of Logistics and Supply Chain Management (LOGISTIQUA) Logistics and Supply Chain Management (LOGISTIQUA), 2020 IEEE 13th International Colloquium of. :1-7 Dec, 2020; IEEE Language: English, Datenbank: IEEE Xplore Digital Library.
- Tarigan, Z. J. H., Siagian, H., & Jie, F. (2021). Impact of enhanced enterprise resource planning (ERP) on firm performance through green supply chain management. Sustainability, 13(8), article 4358.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Supply Chain Management II

Course Code: DLBDSESCM02

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

Course Description

From the perspective of strategic management research and practice, the activities covered by the term SCM are closely related to efforts to build and/or maintain a stable operational competitive advantage. A fundamental discussion of this relationship forms the starting point for the course. On this basis, a differentiated analysis of strategy-relevant activities and instruments in the Plan, Source, Make, Deliver, and Return process categories is then carried out using the SCOR model. Special attention is given to the practice-relevant areas of SCM, e.g., order-promising (plan), supplier-relation-management (source), postponement (make), and the ECR-concept (deliver).

Course Outcomes

On successful completion, students will be able to

- systematically explain the strategic relevance of enterprise-wide value creation processes.
- understand the most important tasks and problems in the SCM core process planning.
- systematize the elements and interrelationships in the CPFR model in a differentiated way.
- be familiar with the characteristics and peculiarities of contract logistics.
- understand the most important tasks and problems in the SCM core process procurement.
- explain central elements and characteristics of a procurement strategy.
- understand the most important tasks and problems in the SCM core process production.
- explain central elements and characteristics of a modern production strategy.
- understand the most important tasks and problems in the SCM core process distribution.
- explain central elements and characteristics of the so-called ECR concept.

Contents

1. Strategic Aspects of SCM
   - 1.1 Strategic Thinking and Action: General Information
   - 1.2 Competition Focus and SCM
   - 1.3 Competition Location and SCM
   - 1.4 Competition Rules and SCM

2. SCM Practice: Core Process Planning
   - 2.1 General Preliminary Considerations
   - 2.2 Collaborative Planning, Forecasting, and Replenishment
   - 2.3 Order Promoting

2.4 Kanban
2.5 Integration of X-PL Logistics Service Providers

3. SCM Practice: Core Process Procurement
   3.1 General Preliminary Considerations
   3.2 Production Synchronous Procurement
   3.3 Sourcing Concepts
   3.4 Supplier Relations Management

4. SCM Practice: Core Process Production
   4.1 Selected Aspects of the Problem Background
   4.2 Collaborative Engineering
   4.3 Postponement Strategies
   4.4 Value Added Partnership

5. SCM Practice: Core Process Distribution
   5.1 Basic Information on the Distribution Problem
   5.2 Efficient Consumer Response (ECR)
   5.3 Consignment Warehouse

Literature

Compulsory Reading

Further Reading

- Chopra, S. (2019). Supply chain management: Strategy, planning and operation (Global ed., 7thed.). Pearson.
- Hill, A., & Hill, T. (2018). Essential operations management (2nd ed.). Palgrave.
- Hugos, M. (2011). Essentials of supply chain management (3rd ed.). John Wiley & Sons.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Advanced Workbook, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
☑ Recorded Live Sessions	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Advanced Workbook, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
☑ Recorded Live Sessions	☑ Slides	

Applied Sales

Module Code: DLBDSEAS

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Tanja Moehler (Applied Sales I) / Tanja Moehler (Applied Sales II)

Contributing Courses to Module

- Applied Sales I (DLBDSEAS01)
- Applied Sales II (DLBDSEAS02)

Module Exam Type

Module Exam	Split Exam
	Applied Sales I • Study Format "Distance Learning": Exam, 90 Minutes Applied Sales II • Study Format "Distance Learning": Exam or Advanced Workbook, 90 Minutes

Weight of Module

see curriculum

Module Contents

Applied Sales I

- Fundamentals of Applied Sales
- The Distribution System
- Personal Sales
- Sales Plans
- New Customer Acquisition
- A Sales Visit
- Conversational Tactics
- Conducting Negotiations
- Other Sales Channels

Applied Sales II

- Marketing and Sales
- Customer Satisfaction as a Success Factor
- Personalities in Sales
- Customer-Oriented Communication
- Presentation and Rhetoric
- Customer Loyalty
- Networking
- Case Study

Learning Outcomes

Applied Sales I

On successful completion, students will be able to

- understand the fundamentals of applied sales and place them in the context of the company.
- understand the interaction of the individual facets of applied sales.
- differentiate between and evaluate individual sales systems.
- describe current sales types and sales characteristics.
- oversee and classify the entire sales process from customer acquisition to customer retention.
- understand the basics of sales and negotiation management and apply them.
- name the usual sales instruments, recognize their advantages and disadvantages, and reflect on essential fields of application and possibilities.

Applied Sales II

On successful completion, students will be able to

- understand the interaction and the respective areas of responsibility of marketing and sales.
- reflect on and classify the goals and measures within the framework of the applied sales system.
- assess the relevance of customer satisfaction and retention. In addition, the students will be familiar with the central design elements of CRM.
- reflect on and assess alternative approaches to customer loyalty and relationship management and apply them in business practice.
- understand the meaning of the terms customer life cycle and customer value, and develop approaches to manage them in the sense of the respective sales targets.
- use descriptive presentation techniques in order to convince customers and other sales partners.
- understand the relevance of networking and develop strategies to broaden the contact base.
- develop and evaluate their own market analyses and sales concepts on the basis of practical experience within the framework of the case study.

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
This module is similar to other modules in the fields of Marketing & Sales	All Bachelor Programmes in the Marketing & Communication fields

Applied Sales I

Course Code: DLBDSEAS01

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

Course Description

The demands on sales thinking are growing every day. Globalized demand combined with high competition is making it increasingly difficult for companies to compete for customers. At the same time, customers are becoming better informed, while traditional supply markets are saturated and at overcapacity. In order to be successful in such an environment, sales thinking and action are required along with a new type of salesperson. Within the course Applied Sales I (Introduction), the participants are familiarized with the basic concepts of applied sales. You will learn about sales organization, dealing with alternative sales channels, and get to know the dedicated sales planning process. The contents of the module are complemented by the successful acquisition of new customers, whereby particular attention is paid to the organization and implementation of customer visits and the conduct of discussions and negotiations.

Course Outcomes

On successful completion, students will be able to

- understand the fundamentals of applied sales and place them in the context of the company.
- understand the interaction of the individual facets of applied sales.
- differentiate between and evaluate individual sales systems.
- describe current sales types and sales characteristics.
- oversee and classify the entire sales process from customer acquisition to customer retention.
- understand the basics of sales and negotiation management and apply them.
- name the usual sales instruments, recognize their advantages and disadvantages, and reflect on essential fields of application and possibilities.

Contents

1. Fundamentals of Applied Sales and Distribution
    - 1.1 Tasks and Forms of Applied Distribution
    - 1.2 Marketing as the Basis of Sales
    - 1.3 Distribution, Sales, and Other Terms
    - 1.4 Sales in Different Economic Sectors
2. The Distribution System

9. Other Sales Channels
   - 9.1 Telemarketing
   - 9.2 Catalogue and Brochure Sales
   - 9.3 Internet and E-Commerce

Literature

Compulsory Reading

Further Reading

- Bloomfield, J. (2020). NeuroSelling: Mastering the customer conversation using the surprising science of decision making. Axon Publishing.
- Jobber, D., Lancaster, G., & Le Meunier-FitzHugh, K. (2019). Selling and sales management (10th ed.). Pearson.
- Peppers, D., & Rogers, M. (2016). Managing customer experience and relationships: A strategic framework (3rd ed.). Wiley.
- Pink, D. H. (2012). To sell is human: The surprising truth about moving others. Riverhead Books.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Applied Sales II

Course Code: DLBDSEAS02

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

Course Description

The course Applied Sales II builds on the basics taught in the course "Applied Sales I" and broadens and deepens them. First, the tension between marketing and sales is examined in more detail. Based on this, essential backgrounds and central target figures for successful sales management (e.g., customer satisfaction and loyalty as well as the customer life cycle) are derived and operationalized in order to create the basis for efficient and effective customer relationship management. As the process progresses, attention will also be paid to mental processes and consumer behavior in general. In addition, strategies and paths to successful negotiation are deepened and supplemented by convincing communication techniques. The course concludes with a case study in the course of which the students have the opportunity to apply what they have learned in a practice-oriented manner.

Course Outcomes

On successful completion, students will be able to

- understand the interaction and the respective areas of responsibility of marketing and sales.
- reflect on and classify the goals and measures within the framework of the applied sales system.
- assess the relevance of customer satisfaction and retention. In addition, the students will be familiar with the central design elements of CRM.
- reflect on and assess alternative approaches to customer loyalty and relationship management and apply them in business practice.
- understand the meaning of the terms customer life cycle and customer value, and develop approaches to manage them in the sense of the respective sales targets.
- use descriptive presentation techniques in order to convince customers and other sales partners.
- understand the relevance of networking and develop strategies to broaden the contact base.
- develop and evaluate their own market analyses and sales concepts on the basis of practical experience within the framework of the case study.

Contents

1. Marketing and Sales
    - 1.1 Marketing and Business Philosophy
    - 1.2 Sales Marketing in Different Economic Sectors
    - 1.3 Relationship Marketing

- 1.4 (International) Marketing and Sales Integration

2. Customer Satisfaction as a Success Factor
   - 2.1 Customer Relationship Management (CRM)
   - 2.2 Customer Orientation Success Chain
   - 2.3 Customer Relationship Strategies

3. Customer Retention
   - 3.1 Customer Retention Management
   - 3.2 Customer Retention Tools
   - 3.3 Complaints Management

4. Customer-Oriented Communications
   - 4.1 Communication and Sales Promotion by Sales Staff
   - 4.2 Sales Promotion by Sales Team
   - 4.3 Sales Promotion by the Company

5. Personalities in Sales
   - 5.1 Sales Personalities
   - 5.2 Selling in Teams
   - 5.3 Negotiating with Committees

6. Presentation and Rhetoric
   - 6.1 Rhetoric in Sales
   - 6.2 Presentation Techniques
   - 6.3 Nonverbal Communication

7. Networking
   - 7.1 Organizational Networks and Networking
   - 7.2 Building and Shaping Relationships
   - 7.3 Networking via Social Media

8. Case Study—Multi-Vendor Customer Loyalty Programs
   - 8.1 German Consumer Goods Market & Drugstore Industry Situation
   - 8.2 PAYBACK—A German Synonym for Loyalty Cards

Literature
Compulsory Reading
Further Reading ▪ Homburg, C., Schäfer, H., & Schneider, J. (2012). Sales excellence: Systematic sales management.Springer Science & Business Media. ▪ Ingram, T. N., Schwepker, C. H., Williams, M. R., Avila, R. A., & LaForge, R. W. (2020). Salesmanagement: Analysis and decision making (10th ed.). Routledge, Taylor & Francis Group. ▪ Kotler, P., & Keller, K. L. (2021). Marketing management (16th, global ed.). Pearson Education

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Advanced Workbook, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
☑ Recorded Live Sessions	☑ Slides	

Smart Factory

Module Code: DLBDSESF

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Sahar Qaadan (Smart Factory I) / Dr. Sahar Qaadan (Smart Factory II)

Contributing Courses to Module

- Smart Factory I (DLBDSESF01)
- Smart Factory II (DLBDSESF02)

Module Exam Type

Module Exam	Split Exam
	Smart Factory I • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Smart Factory II • Study Format "Distance Learning": Written Assessment: Project Report • Study Format "myStudies": Written Assessment: Project Report

Weight of Module

see curriculum

Module Contents

Smart Factory I

- Motivation and Definition of Terms
- Development of Automation
- Technological Basics and Standards
- Basic concepts of a Smart Factory
- Reference Architectures
- Smart Factory Engineering
- Safety and Security

Smart Factory II

A catalogue with the currently provided tasks is provided on the online platform of the module. It provides the content basis of the module and can be supplemented or updated by the seminar leader.

Learning Outcomes

Smart Factory I

On successful completion, students will be able to

- understand the term Smart Factory in the context of Industry 4.0.
- be able to trace the development of automation to a fully autonomous, non-centrally organized production plant.
- understand the basic technologies and standards used to design and operate a Smart Factory.
- understand the essential concepts of a Smart Factory.
- identify and differentiate between the individual elements of a Smart Factory using different reference architectures.
- understand the special engineering challenges in the Smart Energy context.
- understand the special safety risks of digitized and networked production plants and assign concrete recommendations for action.

Smart Factory II

On successful completion, students will be able to

- have a deeper understanding of the technologies and standards in the context of Smart Factory.
- apply technologies in the context of Smart Factory to a simple practical example.
- design a hardware or software prototype for a selected task.
- document, design, and develop activities in the form of a project report.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Computer Science & Software Development	All Bachelor Programmes in the IT & Technology field

Smart Factory I

Course Code: DLBDSESF01

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

Course Description

In this course, students will gain a deeper insight into the networking and digitization of production facilities by examining a Smart Factory. For this purpose, they will be familiarized with the basic goals of a Smart Factory in the context of the research complex Industry 4.0. After a brief introduction to the history of automation, students will learn the technical basics and standards required to design and operate a Smart Factory. Building on this, they will learn how these individual technologies are used to implement the central concepts of a Smart Factory. In order to understand which components a Smart Factory consists of, different reference architectures are presented and compared. The course concludes with the special engineering challenges of an autonomously acting and decentralized production plant. Above all, this includes IT security, which is particularly relevant due to the digital networking of production facilities and products.

Course Outcomes

On successful completion, students will be able to

- understand the term Smart Factory in the context of Industry 4.0.
- be able to trace the development of automation to a fully autonomous, non-centrally organized production plant.
- understand the basic technologies and standards used to design and operate a Smart Factory.
- understand the essential concepts of a Smart Factory.
- identify and differentiate between the individual elements of a Smart Factory using different reference architectures.
- understand the special engineering challenges in the Smart Energy context.
- understand the special safety risks of digitized and networked production plants and assign concrete recommendations for action.

Contents

1. Motivation and Definition of Terms
    - 1.1 Goals of Smart Factory
    - 1.2 Internet of Things
    - 1.3 Cyber-Physical Systems
    - 1.4 Cyber-Physical Production Systems
    - 1.5 Smart Factory as a Cyber-Physical (Production) System

2. Development of Automation
   - 2.1 Automation Pyramid
   - 2.2 Networked, Decentralized Organization of Production
   - 2.3 Future Challenges

3. Technological Basics and Standards
   - 3.1 Identification of Physical Objects
   - 3.2 Formal Description Languages and Ontologies
   - 3.3 Digital Object Memory
   - 3.4 Physical Situation Recognition
   - 3.5 (Partially) Autonomous Action and Cooperation
   - 3.6 Human-Machine Interaction
   - 3.7 Machine to Machine Communication

4. Basic Concepts of a Smart Factory
   - 4.1 Order-Controlled Production
   - 4.2 Bundling of Machine and Production Data
   - 4.3 Supporting People in Production
   - 4.4 Intelligent Products and Resources
   - 4.5 Smart Services

5. Reference Architectures
   - 5.1 Purpose and Properties of Reference Architectures
   - 5.2 Overview of Standardization Initiatives
   - 5.3 CyProS Reference Architecture
   - 5.4 RAMI 4.0 (DIN SPEC 91345)

6. Smart Factory Engineering
   - 6.1 Classification of Different Engineering Tools
   - 6.2 Virtual Engineering
   - 6.3 User-Centered Design
   - 6.4 Requirements Engineering
   - 6.5 Modelling
   - 6.6 Integration of Classic and Smart Components

Literature
Compulsory Reading
Further Reading ▪ Butun, I. (2020). Industrial IoT: Challenges, design principles, applications, and security. Springer. ▪ Drossel, W. G., Ihlenfeldt, S., Lanzger, T., & Dumitrescu, R. (2019). Cyber-physical systems. In R. Neugebauer (Ed.), Digital transformation (pp. 189—213). Springer. ▪ Durakbasa, N. M., & Gençyılmaz, M. G. (Eds.). (2021). Digital conversion on the way to Industry 4.0. Springer. ▪ Ustundag, A., & Cevikcan, E. (2018). Industry 4.0: Managing the digital transformation. Springer.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Smart Factory II

Course Code: DLBDSESF02

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

Course Description

In this course, students select a concrete task from the catalog of topics provided in consultation with the seminar leader. They will work on the task in a prototyping environment suited to the task, which can be either a hardware (e.g., prototyping boards) or software (e.g., technology-specific development environments) environment. To complete the task, students apply the concepts, methods, and tools taught in the Smart Factory I course. They document their results with a project report.

Course Outcomes

On successful completion, students will be able to

- have a deeper understanding of the technologies and standards in the context of Smart Factory.
- apply technologies in the context of Smart Factory to a simple practical example.
- design a hardware or software prototype for a selected task.
- document, design, and develop activities in the form of a project report.

Contents

- A catalogue with the currently provided tasks is provided on the online platform of the module. It provides the content basis of the module and can be supplemented or updated by the seminar leader.

Literature
Compulsory Reading
Further Reading ▪ Arey, D., Le, C. H. & Gao, J. (2021). Lean industry 4.0: a digital value stream approach to process improvement. Procedia Manufacturing, 54, 19–24. ▪ Hartmann, L., Meudt, T., Seifermann, S. & Metternich, J. (2018). Value stream method 4.0: holistic method to analyse and design value streams in the digital age. Procedia CIRP, 78, 249–254. ▪ Luscinski, S. & Ivanov, V. (2020). A Simulation Study of Industry 4.0 Factories based on the Ontology on Flexibility with using FlexSim Software. Management and Production Engineering Review (volume 11, number 3), S. 74–83. ▪ Meroni, G., Baresi, L., Montali, M. & Plebani, P. (2017). Multi-party business process compliance monitoring through IoT-enabled artifacts. Information Systems, 73, 61-78. ▪ OMG (2014). Business Process Model and Notation (BPMN). Version 2.0.2

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Organizational Behavior and Development

Module Code: DLBDBEEOBD

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Katharina Rehfeld (Organizational Behavior) / Prof. Dr. John Stanley (Organizational Development)

Contributing Courses to Module

- Organizational Behavior (DLBBWOB01_E)
- Organizational Development (DLBWPOCM01_E)

Module Exam Type

Module Exam	Split Exam
	Organizational Behavior • Study Format "myStudies": Written Assessment: Case Study • Study Format "Distance Learning": Written Assessment: Case Study Organizational Development • Study Format "myStudies": Exam • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Organizational Behavior

- Relevance and Importance of Organizational Behavior
- Job Performance
- Commitment
- Organisational Mechanisms
- Group-Related Mechanisms
- Individual Mechanisms
- Individual Characteristics

Organizational Development

- The "Organization" in Organization Development
- The Basics of Organization Development
- Pragmatic Premises of Organization Development
- Organizations and Corporate Culture
- Organizational Learning
- The Practice of Organization Development

Learning Outcomes

Organizational Behavior

On successful completion, students will be able to

- establish commitment and performance as the critical dependent variables.
- explain organizational, group-related and individual mechanisms in Organizational Behavior and describe their relation to commitment and performance.
- explain the influence of individual characteristics on individual mechanisms (such as satisfaction, stress, motivation, trust and decision-making).

Organizational Development

On successful completion, students will be able to

- explain the basic principles of organizational development.
- name the human relation theories in organizational development.
- explain points of criticism of organizational development.
- name the implications of Systemic Organizational Development.
- outline the importance and design of corporate culture within organizational development.
- name the characteristics of a learning organization.
- show possible development paths towards the learning organization.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Human Resources and Business Administration & Management	All Bachelor Programs in the Human Resources and Business & Management fields

Organizational Behavior

Course Code: DLBBWOB01_E

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

Course Description

Many decisions are not made solely on the basis of financial or revenue-based considerations, but due to personal agendas, personal preferences or internal competition. This course consequently aims to provide an accessible, theory-driven comprehension of behaviour, interactions and conflicts in organisations. The course deals intensively with the psychological, sociological and anthropological foundations and dynamics in organizations. Starting from the two most critical behavioral variables in the work context, performance and commitment, units and settings that have a significant influence on them are discussed. In detail, organizational, group-related and individual mechanisms as well as individual characteristics are explored as explanatory objects.The course continues with a discussion on corporate culture and organisational structure within the framework of the organisational mechanisms. In the context of group-related mechanisms, the course aims to identify aspects of leadership styles, power structures, negotiation strategies, group dynamics and heterogeneity. Individual mechanisms include job satisfaction, stress, motivation, fairness, trust and decision-making. The individual characteristics (abilities and personality) in turn have an effect on these aforementioned elements.

Course Outcomes

On successful completion, students will be able to

- establish commitment and performance as the critical dependent variables.
- explain organizational, group-related and individual mechanisms in Organizational Behavior and describe their relation to commitment and performance.
- explain the influence of individual characteristics on individual mechanisms (such as satisfaction, stress, motivation, trust and decision-making).

Contents

1. Introduction to Organizational Behavior
    - 1.1 Attitudes and Behavior as Determinants of Performance and Commitment
    - 1.2 Organizational Mechanisms
    - 1.3 Group-related Mechanisms
    - 1.4 Individual Characteristics
    - 1.5 Individual Mechanisms
2. Target Figures: Performance and Commitment

2.1 Performance
2.2 Commitment

3. Organizational Mechanisms
   3.1 Corporate Structure
   3.2 Corporate Culture

4. Group-Related Mechanisms
   4.1 Management Styles
   4.2 Power Structures
   4.3 Negotiation Strategies
   4.4 Team Dynamics
   4.5 Diversity

5. Individual Characteristics
   5.1 Skill and Intellect
   5.2 Personality

6. Individual Mechanisms
   6.1 Job Satisfaction
   6.2 Stress
   6.3 Motivation
   6.4 Trust
   6.5 Integrity
   6.6 Learning and Decision-Making

Literature

Compulsory Reading

Further Reading

- Colquitt, J., Lepine, J. A., & Wesson, M. J. (2018). Organizational behavior: Improving performance and commitment in the workplace (6th ed.). McGraw-Hill Irwin.
- Cross, C., & Carbery, R. (2016). Organizational behavior: An introduction. Macmillan Education.
- Luthans, F., Luthans, B. C., & Luthans, K. W. (2015). Organizational behavior: An evidence-based approach (13th ed.). Information Age Publishing.
- Robins, S. P., & Judge, T. A. (2016). Organizational behavior. Prentice Hall International.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Written Assessment: Case Study

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
110 h	0 h	20 h	20 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Online Tests
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Guideline
	☑ Audio	
	☑ Slides	

Organizational Development

Course Code: DLBWPOCM01_E

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

Course Description

To remain competitive, all organizations are subject to constant change. To shape this change positively is a key function of the responsible managers and a sign of successful management. Frequently, reasons such as the discontinuation or the development of new business fields, mergers and relocations are decisive, but also continuous company growth; technological improvements and social changes are reasons for partly far-reaching measures for the further development of organizations. This knowledge is of central importance for implementing changes. This course shows the most important human relation theories that serve as a basis for organizational development. Since the corporate culture is a central component of organizational development, both the analysis and the development of the corporate culture are presented. It also discusses the most important aspects of learning organization.

Course Outcomes

On successful completion, students will be able to

- explain the basic principles of organizational development.
- name the human relation theories in organizational development.
- explain points of criticism of organizational development.
- name the implications of Systemic Organizational Development.
- outline the importance and design of corporate culture within organizational development.
- name the characteristics of a learning organization.
- show possible development paths towards the learning organization.

Contents

1. The “Organization” in Organization Development
   - 1.1 Definition and Concept of Organization
   - 1.2 The Historical Evolution of Approaches to Organizational Design
   - 1.3 Principles of Organization Design und Forms of Organizations
2. The Basics of Organization Development
   - 2.1 Definition, Distinguishing Characteristics, and a Differentiation from Related Disciplines
   - 2.2 The Historical Evolution of Organization Development
   - 2.3 Criticisms of Organization Development

3. Pragmatic Premises of Organization Development
   - 3.1 Human Relation Theories
   - 3.2 Phase Models
   - 3.3 Systems Theory

4. Organizations and Corporate Culture
   - 4.1 Theoretical Basics
   - 4.2 Analysis of Culture
   - 4.3 Models of Cultural and Organization Change

5. Organizational Learning
   - 5.1 Basic Ideas and Definitions
   - 5.2 How do Organizations Learn?
   - 5.3 Fostering Organizational Learning

6. The Practice of Organization Development
   - 6.1 The Issue of Understanding and Communication for the OD Practitioner
   - 6.2 A Traditional Approach – Lewin and Schein
   - 6.3 A Contemporary Approach: Systems Thinking and Dialogic OD

Literature

Compulsory Reading

Further Reading

- Cummings, T. G. (2009): Handbook of Organization Development. Sage Pub, Thousand Oaks.
- Kozlowski, S. W. J./Salas, E. (2010): Learning, training, and development in organizations. Routledge, New York.
- Laloux, F. (2015): Reinventing Organizations. An Illustrated Innovation to Join the Conversation on Next-Stage Organizations. Nelson Parker.
- Simons, R. (2005): Levers of Organization: How Managers uns Accountability Systems for Greater Performance and Commitment. Boston Harvard Business School Publishing, Boston.
- Tolbert, P. S./Hall, R. H. (2016): Organizations – Structures, Processes, and Outcomes. 10th Edt. Routledge, New York.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Exam

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods

Study Format Distance Learning

Study Format	**Course Type**
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Slides	

Secure Cloud Computing

Module Code: DLBDBEESCC

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum		BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Tianxiang Lu (Cloud Computing) / Prof. Dr. Ahmed Taha (Security Controls in the Cloud)

Contributing Courses to Module

- Cloud Computing (DLBDSCC01)
- Security Controls in the Cloud (DLBCSEECS01_E)

Module Exam Type

Module Exam	Split Exam
	Cloud Computing • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes Security Controls in the Cloud • Study Format "Duales myStudium": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Cloud Computing

- Cloud Computing Fundamentals
- Relevant Enabling Technologies for Cloud Computing
- Introduction to Serverless Computing
- Established Cloud Platforms
- Cloud Offerings for Data Science and Analytics

Security Controls in the Cloud

- Cloud Security
- Losing the Intranet
- Security by Design
- Secure Cloud Coding
- Confidentiality Aspects
- Monitoring and Audit

Learning Outcomes

Cloud Computing

On successful completion, students will be able to

- understand the fundamentals of cloud computing and cloud service models.
- recognize enabling technologies that underlie current cloud offerings.
- cite the principles of serverless computing.
- analyze characteristics of established cloud offerings.
- describe cloud options for data science and machine learning

Security Controls in the Cloud

On successful completion, students will be able to

- design a secure cloud deployment using infrastructure as code methodologies.
- understand cloud-specific attacks and threat models.
- define appropriate storage classes in compliance with security requirements.
- monitor cloud resources to detect misuse and incidents.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Data Science & Artificial Intelligence and Computer Science & Software Development	All Bachelor Programs in the IT & Technology field

Cloud Computing

Course Code: DLBDSCC01

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

Course Description

Many of the recent advances in data science, particularly machine learning and artificial intelligence, rely on comprehensive data storage and computing power. Cloud computing is one way of providing that power in a scalable way, without considerable upfront investment in hardware and software resources. This course introduces the area of cloud computing together with its enabling technologies. Moreover, the most cutting-edge advances like serverless computing and storage are illustrated. Finally, a thorough overview on popular cloud offerings, especially in regard to analytics capabilities, is given.

Course Outcomes

On successful completion, students will be able to

- understand the fundamentals of cloud computing and cloud service models.
- recognize enabling technologies that underlie current cloud offerings.
- cite the principles of serverless computing.
- analyze characteristics of established cloud offerings.
- describe cloud options for data science and machine learning

Contents

1. Introduction to Cloud Computing
   - 1.1 Fundamentals of Cloud computing
   - 1.2 Cloud Service Models
   - 1.3 Benefits and Risks
2. Enabling Technology
   - 2.1 Virtualization and Containerization
   - 2.2 Storage Technology
   - 2.3 Networks and RESTful Services
3. Serverless Computing
   - 3.1 Introduction to Serverless Computing
   - 3.2 Benefits
   - 3.3 Limitations

4. Established Cloud Platforms
   - 4.1 General Overview
   - 4.2 Google Cloud Platform
   - 4.3 Amazon Web Services
   - 4.4 Microsoft Azure
   - 4.5 Platform Comparison

5. Data Science in the Cloud
   - 5.1 Provider-independent services and tools
   - 5.2 Google Data Science and Machine Learning Services
   - 5.3 Amazon Web Services Data Science and Machine Learning Services
   - 5.4 Microsoft Azure Data Science and Machine Learning Services

Literature

Compulsory Reading

Further Reading

- Goessling, S., & Jackson, K. L. (2018). Architecting cloud computing solutions. Birmingham: Packt Publishing.
- Mahmood, Z., Puttini, R., & Erl, T. (2013). Cloud computing: Concepts, technology & architecture. Boston, MA: Prentice Hall.
- Sehgal, N. K., & Bhatt, P. C. P. (2023). Cloud Computing with Security and Scalability: Concepts and Practices.
- Zonooz, P. Farr, E., Arora, K., & Laszewski, T. (2018). Cloud native architectures. Birmingham: Packt Publishing.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Security Controls in the Cloud

Course Code: DLBCSEECS01_E

Study Level	Language of Instruction and Examination	Contact Hours	CP	Admission Requirements
BA	English		5	DLBDSCC01 or DLBDSCC01_D

Course Description

Maintaining a datacenter is expensive and inflexible, so it is expected that most corporations will be moving their server-based processes to a private, public or hybrid cloud in the next few years. Doing so will make operations more flexible and elastic but poses challenges to security architectures and operations. The paradigm of Infrastructure as Code (IaC) has been embraced by cloud providers and is a great opportunity to architect security into the design of a system (security by design) utilizing security best practices. However, too often, we see the on-premises mentality being applied to cloud deployments resulting in less secure systems instead of utilizing the security advantages a cloud provides. This course teaches the principles of Cloud Native security and how to avoid common pitfalls.

Course Outcomes

On successful completion, students will be able to

- design a secure cloud deployment using infrastructure as code methodologies.
- understand cloud-specific attacks and threat models.
- define appropriate storage classes in compliance with security requirements.
- monitor cloud resources to detect misuse and incidents.

Contents

1. Cloud security is different
   - 1.1 Shared responsibility model
   - 1.2 Infrastructure as code
   - 1.3 The Private, Public and Hybrid Cloud
   - 1.4 Types of virtualization
   - 1.5 Cloud threat models: Mitre Cloud ATT&CK
2. Losing the intranet
   - 2.1 Identify and Access Management
   - 2.2 Principle of least privilege and fine-grained cloud access control
   - 2.3 Using Software Defined Networks, virtual private clouds and subnets
   - 2.4 Moving to a serverless architecture
   - 2.5 Defense in depth

3. Security by design
   - 3.1 Orchestration: Infrastructure as Code
   - 3.2 The Automate-Everything principle, Updating and Repeatability
   - 3.3 Reuse of good design patterns
   - 3.4 Container security
   - 3.5 Identification and Authentication

4. Secure cloud coding
   - 4.1 Software supply chain security
   - 4.2 Continuous Integration and Deployment
   - 4.3 Testing in code integration for security
   - 4.4 Canaries in code deployment
   - 4.5 Policy engines

5. Confidentiality aspects
   - 5.1 Secrets management
   - 5.2 Encryption of data at rest
   - 5.3 Encryption of data in transit
   - 5.4 Data leakage and exfiltration

6. Availability
   - 6.1 Storage tiers and locality
   - 6.2 Backup strategies
   - 6.3 Data and process redundancy
   - 6.4 Data lifecycle configuration
   - 6.5 DDoS mitigation

7. Locality
   - 7.1 Compliance requirements
   - 7.2 Geography of data/processes
   - 7.3 Redundancy of data centers
   - 7.4 Colocation for performance reasons

8. Monitoring and Audit
   - 8.1 Centralized logging
   - 8.2 Auditing orchestration scripts
   - 8.3 Detecting misconfigurations
   - 8.4 Cloud Forensics

9. Summary and Research topics
   - 9.1 Homomorphic encryption
   - 9.2 Attestation
   - 9.3 Proof-carrying data
   - 9.4 Side-channel attacks
   - 9.5 Conclusions

Literature

Compulsory Reading

Further Reading

- Mitre Cloud ATT&CK. https://attack.mitre.org/matrices/enterprise/cloud/

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
☑ Recorded Live Sessions	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions	☑ Audio	
	☑ Slides	

Product Development and Solutions

Module Code: DLBDBEEPDS

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Dorian Mora (Product Development in Industry 4.0) / Dr. Hajck Karapetjan (Project: Smart Product Solutions)

Contributing Courses to Module

- Product Development in Industry 4.0 (DLBINGPE01_E)
- Project: Smart Product Solutions (DLBIEPSPS01)

Module Exam Type

Module Exam	Split Exam
	Product Development in Industry 4.0 • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes Project: Smart Product Solutions • Study Format "Distance Learning": Oral Project Report • Study Format "myStudies": Oral Project Report

Weight of Module

see curriculum

Module Contents

Product Development in Industry 4.0

- Introduction to Modern Product Development
- Fundamentals of Product Development
- Methods in the Product Development Process
- Alternative Design Approaches
- Digitalization of Product Design
- Customized Mass Production
- Outlook: Digital Engineering and Operation

Project: Smart Product Solutions

This course focuses on the application of agile engineering methods for smart product solutions within the framework of a practice-oriented project. The architecture and mechanics of smart product solutions will be described by means of their integrated business model components.

Learning Outcomes

Product Development in Industry 4.0

On successful completion, students will be able to

- recall the historical development of industrial production.
- name current trends in the context of the "fourth industrial revolution" and their impact on product development.
- know the basic methods in product development.
- know the traditional product development process from design theory.
- differentiate alternative approaches to product development.
- name selected tools in the context of digital and virtual product design.
- explain the lot size problem and determine lot sizes for traditional production types.
- distinguish traditional production types from modern strategies such as customized mass production and rapid manufacturing.
- name current approaches to the complete digitalization of product creation and production processes in terms of digital engineering.

Project: Smart Product Solutions

On successful completion, students will be able to

- answer the question of the relevance of dynamic business models of smart product solutions for business practice.
- describe and analyze smart product solutions by means of the business model architecture and mechanics.
- select and apply the right tools from the engineering methodology toolbox of smart product solutions for the modelling and analysis of digital business models in a practice-oriented way.
- develop management cockpits to support decision-making in the implementation of smart product solutions.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Engineering and Computer Science & Software Development	All Bachelor Programs in the IT & Technology field

Product Development in Industry 4.0

Course Code: DLBINGPE01_E

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

Course Description

The aim of the course is to give students an overview of current approaches to modern product development in the context of Industry 4.0. Based on traditional methods and tools of product development, relevant alternative design approaches are described, which put the consumer in the center of the design. In addition, modern tools to support product design are presented with which an engineer can digitally capture and simulate both the static/geometric and dynamic properties of a product. In addition, aspects of customized mass production will be discussed and compared with traditional production types. As an outlook on future developments, current research approaches for consistently digitalized product development are presented.

Course Outcomes

On successful completion, students will be able to

- recall the historical development of industrial production.
- name current trends in the context of the "fourth industrial revolution" and their impact on product development.
- know the basic methods in product development.
- know the traditional product development process from design theory.
- differentiate alternative approaches to product development.
- name selected tools in the context of digital and virtual product design.
- explain the lot size problem and determine lot sizes for traditional production types.
- distinguish traditional production types from modern strategies such as customized mass production and rapid manufacturing.
- name current approaches to the complete digitalization of product creation and production processes in terms of digital engineering.

Contents

1. Introduction to Modern Product Development
   - 1.1 Terms of Industrial Production
   - 1.2 The Fourth Industrial Revolution
   - 1.3 Turnaround in the Factors of Production
   - 1.4 Trends in Product Development
2. Fundamentals of Product Development

- 2.1 Methods of Product Planning
- 2.2 Methods of the Solution Search
- 2.3 Selection and Evaluation of Alternatives

3. Methods in the Product Development Process
   - 3.1 Clarify Requirements
   - 3.2 Concept
   - 3.3 Draft
   - 3.4 Development

4. Alternative Design Approaches
   - 4.1 Design Thinking
   - 4.2 Personas
   - 4.3 Human-Centered Design According to ISO 9241-210
   - 4.4 Participatory Design
   - 4.5 Open Innovation
   - 4.6 Empathic Design

5. Digitalization of Product Design
   - 5.1 From Drawing Board to Digital Functional Model
   - 5.2 Computer-Aided Engineering
   - 5.3 Computer-Aided Quality
   - 5.4 Engineering and Product Data Management
   - 5.5 Simulation Data Management

6. Customized Mass Production
   - 6.1 Traditional Types of Production
   - 6.2 Lot Size Problem and Planning
   - 6.3 Mass Customization
   - 6.4 Rapid Manufacturing

7. Outlook: Digital Engineering and Operation
   - 7.1 Definition
   - 7.2 Fields of Application
   - 7.3 Data Mining
   - 7.4 Modeling of Dynamic Product Properties
   - 7.5 Provision of Information

Literature
Compulsory Reading
Further Reading ▪ Kull, H. (2015): Mass Customization. Opportunities, Methods, and Challenges for Manufacturers. Apress, Berkeley/New York. ▪ Olsen, D. (2015): The Lean product playbook: How to innovate with minimum viable products and rapid customer feedback. Wiley, Hoboken, NJ. ▪ Stark, J. (2022): Product Lifecycle Management (Volume 1): 21st Century Paradigm for Product Realisation (Decision Engineering) (English Edition). Fifth Edition. Springer.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Project: Smart Product Solutions

Course Code: DLBIEPSPS01

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

Course Description

Smart product solutions have the potential to increase the efficiency of existing business models in the context of digital transformation. In addition to the expansion and optimization of traditional business models, smart product solutions also create completely new business models, in which, for example, revenues are not linked to the transfer of ownership of the product, but to its use. In practice, however, the design and analysis of smart product solutions and their business models is difficult for many companies, as the complexity of these smart solutions results in insufficient methodological know-how. Against this background, the students apply various instruments and modelling tools to describe and analyze smart product solutions within the framework of a practice-oriented project.

Course Outcomes

On successful completion, students will be able to

- answer the question of the relevance of dynamic business models of smart product solutions for business practice.
- describe and analyze smart product solutions by means of the business model architecture and mechanics.
- select and apply the right tools from the engineering methodology toolbox of smart product solutions for the modelling and analysis of digital business models in a practice-oriented way.
- develop management cockpits to support decision-making in the implementation of smart product solutions.

Contents

- By means of an agile engineering approach, students learn about the complex interrelationships of smart product solutions in a project-oriented setting. In addition to the structural description, students also gain a comprehensive insight into the quantitative modeling of the dynamic interrelationships of smart product solutions and their business models at a specific product solution level. The consistent application of techniques and tools from the engineering construction kit of smart product solutions enables the development of new business models as well as the adaptation of existing business models through the flexible configuration of interdependent components. Radical innovations with a completely new benefits are just as possible as incremental adjustments in a more evolutionary transformation process. Through the abstract description of the architecture

and the dynamic modelling of the mechanics of the smart product solutions and their business models, students learn the basics for effective decision support in practice, which ensures continuous learning in a digital world with growing dynamic complexity.

Literature

Compulsory Reading

Further Reading

- Boßlau, M. (2021). Business Model Engineering for Smart Product-Service Systems. Procedia CIRP, 104, 565–570.
- Boßlau, M. (2021). Digital Engineering of Dynamic Business Models for Smart Product-Service Systems (Proceedings of the International System Dynamics Conference). Chicago. (Available on the Internet)
- Negash, Y. T., & Calahorrano Sarmiento, L. S. (2023). Smart product-service systems in the healthcare industry: Intelligent connected products and stakeholder communication drive digital health service adoption. Heliyon, 9(2), e13137.
- Pöppelbuß, J., & Durst, C. (2019). Smart Service Canvas – A tool for analyzing and designing smart product-service systems. Procedia CIRP, 83, 324–329.
- Zawadzki, P./Żywicki, K. (2016): Smart Product Design and Production Control for Effective Mass Customization in the Industry 4.0 Concept. Management and Production Engineering Review, 7(3), 105–112.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint	☑ Slides	☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Learning Material	**Exam Preparation**
☑ Slides	☑ Guideline

Robotics and Production Engineering

Module Code: DLBSEWRI_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Matthias Eifler (Introduction to Robotics) / Prof. Dr. Hans Kerwat (Production Engineering Industry 4.0)

Contributing Courses to Module

- Introduction to Robotics (DLBROIR01_E)
- Production Engineering Industry 4.0 (DLBDSEAR01)

Module Exam Type

Module Exam	Split Exam
	Introduction to Robotics • Study Format "Distance Learning": Exam or Written Assessment: Written Assignment, 90 Minutes • Study Format "myStudies": Exam or Written Assessment: Written Assignment, 90 Minutes Production Engineering Industry 4.0 • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes

Weight of Module

see curriculum

Module Contents

Introduction to Robotics

- Introduction to Robotics
- Trends
- Industrial Robots
- Mobile Robots
- Applications

Production Engineering Industry 4.0

- Introduction to Manufacturing Technology
- Main Production Groups According to DIN 8580
- Additive Manufacturing Processes
- Rapid Prototyping
- Rapid Tooling
- Direct/Rapid Manufacturing
- Cyber-Physical Production Plants

Learning Outcomes

Introduction to Robotics

On successful completion, students will be able to

- name important developments in the field of robotics.
- understand the mechanical structure and characteristics of robots.
- name characteristics and challenges of industrial robots.
- name characteristics and challenges of mobile robots.
- understand the role of robots in applications.
- name and understand current trends in the field of robotics.

Production Engineering Industry 4.0

On successful completion, students will be able to

- understand the basic concepts and interrelationships of production engineering.
- understand current changes in manufacturing technology due to technologies such as additive manufacturing and megatrends such as cyber physical systems.
- assign different manufacturing processes to the main manufacturing groups according to DIN 8580.
- understand the basic principle of additive manufacturing processes.
- distinguish between different additive manufacturing processes.
- understand the terms Rapid Prototyping, Rapid Tooling, and Direct Manufacturing and name individual processes and application examples.
- understand the elements and properties of cyber-physical production plants.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Engineering and Computer Science & Software Development	All Bachelor Programmes in the IT & Technology fields

Introduction to Robotics

Course Code: DLBROIR01_E

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

Course Description

Robotics is experiencing very interesting developments, which experts describe as being a transition to a new generation of robots. We have moved from the "4Ds" of Robotics 1.0 (dull, dirty, dumb, dangerous) to the "4Ss" of Robotics 2.0 (smarter, safer, sensors, simple), but we still need to proceed further to the "4Ms" of Robotics 3.0 (multitasking, emotive, morphing, multiagent). This course, thus, provides the required background to understand the main development of robotics looking at industrial as well as at mobile robots, their main characteristics, issues, challenges, applications, and development trends.

Course Outcomes

On successful completion, students will be able to

- name important developments in the field of robotics.
- understand the mechanical structure and characteristics of robots.
- name characteristics and challenges of industrial robots.
- name characteristics and challenges of mobile robots.
- understand the role of robots in applications.
- name and understand current trends in the field of robotics.

Contents

1. What is Robotics?
   - 1.1 Basics and Definitions
   - 1.2 History and Cultural Influence
   - 1.3 Challenges and Trends (from Robotics 1.0 to Robotics 3.0)
2. Robots
   - 2.1 Mechanical Structure
   - 2.2 Kinematic Chains
   - 2.3 Market Overview
3. Industrial Robots
   - 3.1 Components of Industrial Robot Systems
   - 3.2 Characteristics

3.3 Common Industrial Robots
3.4 Applications
3.5 Trends

4. Mobile Robots
4.1 Components of Mobile Robot Systems
4.2 Characteristics
4.3 Common Mobile Robots
4.4 Applications
4.5 Trends

5. Applications
5.1 Industrial Robots
5.2 Healthcare
5.3 Agriculture or Field Robotics
5.4 Space and Defense
5.5 Warehouse and Logistics
5.6 Construction
5.7 Wearables
5.8 Social Robots

Literature

Compulsory Reading

Further Reading

- Mihelj, M., Bajd, T., Ude, A., Lenarcic, J., Stanovnik, A., Munih, M., Rejc, J., & Slajpah, S. (2019). Robotics(2nd ed.). Springer.
- Ben-Ari, M., & Mondada, F. (2017). Elements of robotics. Springer.
- Siciliano, B., & Khatib, O. (Eds.). (2016). Springer handbook of robotics. Springer

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
	☑ Slides	

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam or Written Assessment: Written Assignment, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
100 h	0 h	25 h	25 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	☑ Guideline
	☑ Slides	

Production Engineering Industry 4.0

Course Code: DLBDSEAR01

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

Course Description

The aim of the course is to provide students with an overview of the processes that have influenced and still influence production processes through technological developments under the generic term Industry 4.0, based on traditional, standardized manufacturing techniques. These include, in particular, technological advances in additive manufacturing processes that enable applications such as rapid prototyping, rapid tooling, and direct manufacturing. Finally, the course deals with the consequences of the digitalization and networking of production facilities and their elements in the sense of a cyber-physical system.

Course Outcomes

On successful completion, students will be able to

- understand the basic concepts and interrelationships of production engineering.
- understand current changes in manufacturing technology due to technologies such as additive manufacturing and megatrends such as cyber physical systems.
- assign different manufacturing processes to the main manufacturing groups according to DIN 8580.
- understand the basic principle of additive manufacturing processes.
- distinguish between different additive manufacturing processes.
- understand the terms Rapid Prototyping, Rapid Tooling, and Direct Manufacturing and name individual processes and application examples.
- understand the elements and properties of cyber-physical production plants.

Contents

1. Introduction to Manufacturing Technology
    - 1.1 Basic Terms and Contexts in Manufacturing Theory
    - 1.2 Historical Development of Production
    - 1.3 The Discussion About the Long Tail
2. Classification Of Manufacturing Processes
    - 2.1 Casting and Molding
    - 2.2 Forming
    - 2.3 Machining
    - 2.4 Joining

- 2.5 Coating
- 2.6 Changing the Properties of Substances

3. Additive Manufacturing Processes
   - 3.1 Basic Principles and Legal Aspects
   - 3.2 Stereolithography (STL)
   - 3.3 Selective Laser Sintering and Selective Beam Melting With Laser or Electron Beam
   - 3.4 Fused Deposition Modeling (FDM)
   - 3.5 Multi-Jet Modeling (MJM) and Poly-Jet Process (PJM)
   - 3.6 3D Printing Process (3DP)
   - 3.7 Laminating Processes
   - 3.8 Mask Sintering

4. Rapid Prototyping
   - 4.1 Definition
   - 4.2 Strategic and Operational Aspects
   - 4.3 Application Areas and Examples

5. Rapid Tooling
   - 5.1 Definition, Strategic, and Operational Aspects
   - 5.2 Indirect and Direct Procedures

6. Direct/Rapid Manufacturing
   - 6.1 Potentials and Requirements for Procedures
   - 6.2 Implementation, Application Areas, and Examples

7. Cyber-Physical Production Plants
   - 7.1 Derivation of the Terms Industry 4.0 and Cyber-Physical Systems
   - 7.2 Megatrend Cyber Physical Systems (CPS)
   - 7.3 Definition Cyber-Physical Production Plant
   - 7.4 Effects on Planning and Operation of Production Facilities
   - 7.5 Dynamic Reconfiguration and Migration of Production Facilities

Literature
Compulsory Reading
Further Reading ▪ Anderson, C. (2012). Makers: The new industrial revolution. Crown Business. ▪ Gebhardt, A., Kessler, J. & Thurn, L. (2019). 3D printing: Understanding additive manufacturing (2nd ed). Hanser. ▪ Groover, M. P. (2012). Fundamentals of modern manufacturing: Materials, processes, and systems (5th ed.). Wiley.

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
	☑ Audio	
	☑ Slides	

Augmented, Mixed and Virtual Reality

Module Code: DLBMIAMVR_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Janki Dodiya (Augmented, Mixed and Virtual Reality) / Prof. Dr. Armin Grasnick (X-Reality Project)

Contributing Courses to Module

- Augmented, Mixed and Virtual Reality (DLBMIAMVR01_E)
- X-Reality Project (DLBMIAMVR02_E)

Module Exam Type

Module Exam	Split Exam
	Augmented, Mixed and Virtual Reality • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "myStudies": Exam, 90 Minutes • Study Format "Duales myStudium": Exam, 90 Minutes X-Reality Project • Study Format "Duales myStudium": Written Assessment: Project Report • Study Format "myStudies": Written Assessment: Project Report • Study Format "Distance Learning": Written Assessment: Project Report

Weight of Module
see curriculum

Module Contents

Augmented, Mixed and Virtual Reality

- Definition and Differentiation of Terms
- Fields of Application and Examples
- Aspects of Human Perception
- Augmented and Virtual Reality Output Devices
- Input Devices
- Interaction in Virtual and Augmented Realities
- Aspects of XR Application Development
- Future of XR Technologies

X-Reality Project

Development of AR-/VR-Application; Design, Implementation and Documentation; Challenges and Problems

Learning Outcomes

Augmented, Mixed and Virtual Reality

On successful completion, students will be able to

- name the characteristics and differences of augmented, mixed, and virtual reality techniques.
- describe the importance of sensual perception in AR and VR.
- explain the basic technical features of AR and VR systems.
- explain the different interaction possibilities in AR and VR applications.
- perform selected development processes for AR and VR applications.

X-Reality Project

On successful completion, students will be able to

- implement a small AR/VR application by themselves.
- experiment with the concept of AR/VR applications.
- discuss challenges and issues in AR/VR software development.
- document the concept and implementation of independently developed AR/VR applications and accumulated experience in a project report.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the fields of Computer Science & Software Development	All Bachelor Programs in the IT & Technology fields

Augmented, Mixed and Virtual Reality

Course Code: DLBMIAMVR01_E

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

Course Description

Augmented, mixed and virtual reality (AR, MR and VR) technologies are becoming increasingly important in a wide range of application areas. In this context, novel hardware devices and forms of interaction are used. In addition to the technical foundations, this course covers aspects of human perception and approaches for developing AR/VR applications. To give the students a knowledge of the field, the terms augmented, mixed, and virtual reality will be defined and differentiated and examples of their use will be demonstrated. In order to simulate the existence of a virtual world or virtual objects to users, aspects of human perception have to be used. Based on the fundamentals of human information processing, the course highlights the phenomena, problems, and solutions that have to be considered in AR and VR applications. AR and VR systems can be implemented in different ways. This course addresses different output forms, tracking methods and interaction possibilities. In addition, other techniques that are specifically relevant in the AR field will be represented. Software development in the AR and VR field may require the application of special processes. This course teaches selected approaches that are helpful in designing, prototyping, and testing AR and VR applications. The course concludes with a view at the future applications and the research potential of augmented, mixed, and virtual reality.

Course Outcomes

On successful completion, students will be able to

- name the characteristics and differences of augmented, mixed, and virtual reality techniques.
- describe the importance of sensual perception in AR and VR.
- explain the basic technical features of AR and VR systems.
- explain the different interaction possibilities in AR and VR applications.
- perform selected development processes for AR and VR applications.

Contents

1. Introduction to Augmented, Mixed and Virtual Reality
   - 1.1 Definition and Differentiation of Terms
   - 1.2 Fields of Application and Examples
2. Aspects of Human Perception
   - 2.1 Human Information Processing
   - 2.2 Visual Perception

- 2.3 Multisensory Perception
- 2.4 Phenomena, Problems and Solutions

3. Virtual Reality Output Devices
   - 3.1 Reality System: Input, Output and User
   - 3.2 Visual Displays and its Characteristics
   - 3.3 Multisensory Display Technology

4. Augmented Reality Output Devices
   - 4.1 Tracking
   - 4.2 Video See-Through vs. Optical See-Through vs. Projection
   - 4.3 General Differences between Devices

5. Input Devices
   - 5.1 Hand Input Devices
   - 5.2 Non-Hand Input Devices

6. Interaction in Virtual and Augmented Realities
   - 6.1 Fundamentals of Human-Computer Interaction
   - 6.2 Selection
   - 6.3 Manipulation of Objects
   - 6.4 Navigation
   - 6.5 Perceptual Variables

7. Aspects of Development
   - 7.1 Iterative Development Approaches for VR/AR Applications
   - 7.2 Design Techniques
   - 7.3 Prototyping
   - 7.4 Evaluation

8. The Future of Augmented, Mixed and Virtual Reality
   - 8.1 Outlook on Future Applications
   - 8.2 Focus Points for Future Research

Literature
Compulsory Reading
Further Reading ▪ Billinghurst, M., Clark, A., & Lee, G. (n.d.). A Survey of Augmented Reality. Foundations and Trends in Human-Computer Interaction, 8(2-3), 73-272. ▪ Jerald, J. (2016). The VR Book: Human-Centered Design for Virtual Reality. ACM and Morgan & Claypool. ▪ Schmalstieg, D., & Höllerer, T. (2016). Augmented Reality: Principles and Practice. Addison-Wesley.

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

X-Reality Project

Course Code: DLBMIAMVR02_E

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

Course Description

The students create an application from the field of augmented or virtual reality by themselves and document its conception and implementation as well as collected experiences. The development of an AR/VR application may include special steps that are not known from classic software applications. In this context, AR- or VR-typical elements of the application should be explicitly highlighted and challenges and problems should be addressed.

Course Outcomes

On successful completion, students will be able to

- implement a small AR/VR application by themselves.
- experiment with the concept of AR/VR applications.
- discuss challenges and issues in AR/VR software development.
- document the concept and implementation of independently developed AR/VR applications and accumulated experience in a project report.

Contents

- The students work on a project from the field of augmented or virtual reality. They design and implement an AR/VR application based on a concrete task. The development of the application as well as collected experiences are documented in a project report. The project report first presents the project goal as well as the topic and context of the application. Then the requirements, the conception and the implementation of the application are described. During the documentation, AR- or VR-typical elements will be explicitly highlighted. The report concludes by highlighting the challenges and issues that arose during development.

Literature
Compulsory Reading
Further Reading ▪ Buttfield-Addison, P., Manning, J., Nugent, T. (2019): Unity Game Development Cookbook: Essentials for Every Game. O'Reilly. ▪ Linowes, J. (2015): Unity virtual reality projects. Explore the world of virtual reality by building immersive and fun VR projects using Unity 3D. Packt Publishing. ▪ Linowes, J./Babilinski, K. (2017): Augmented Reality for Developers. Build practical augmented reality applications with Unity, ARCore, ARKit, and Vuforia. Packt Publishing.

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Learning Material	**Exam Preparation**
☑ Slides	☑ Guideline

Study Format myStudies

Study Format	Course Type
myStudies	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Written Assessment: Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Learning Material	**Exam Preparation**
☑ Slides	☑ Guideline

Mastering Prompts

Module Code: DLBWMP_E

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Prof. Dr. Kristina Schaaff (Artificial Intelligence) / Prof. Dr. Knut Linke (Project: AI Excellence with Creative Prompting Techniques)

Contributing Courses to Module

- Artificial Intelligence (DLBDSEAIS01)
- Project: AI Excellence with Creative Prompting Techniques (DLBPKIEKPT01_E)

Module Exam Type

Module Exam	Split Exam
	Artificial Intelligence • Study Format "myStudies": Exam, 90 Minutes • Study Format "Distance Learning": Exam, 90 Minutes • Study Format "Duales myStudium": Exam, 90 Minutes Project: AI Excellence with Creative Prompting Techniques • Study Format "Duales myStudium": Oral Project Report • Study Format "Distance Learning": Oral Project Report

Weight of Module

see curriculum

Module Contents

Artificial Intelligence

Project: AI Excellence with Creative Prompting Techniques

Learning Outcomes

Artificial Intelligence

On successful completion, students will be able to

- chart the historical developments in artificial intelligence.
- understand the approach of contemporary AI systems.
- comprehend the concepts behind reinforcement learning.
- analyze natural language using basic NLP techniques.
- scrutinize images and their contents.

Project: AI Excellence with Creative Prompting Techniques

On successful completion, students will be able to

- comprehend and apply basic prompting techniques in generative AI applications.
- analyze and evaluate the effectiveness of the basic prompts.
- apply ethical considerations to the design and use of AI for basic prompting techniques.
- design, implement, and refine effective prompts to real-world scenarios through hands-on exercises.
- showcase creative and innovative thinking in the application of prompting techniques to solve complex problems in their field of studies.

Links to other Modules within the Study Program	Links to other Study Programs of the University
This module is similar to other modules in the field of Data Science & Artificial Intelligence	All Bachelor Programs in the IT & Technology field

Artificial Intelligence

Course Code: DLBDSEAIS01

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

Course Description

The quest for artificial intelligence (AI) has captured humanity's interest for many decades and has been an active research area since the 1960s. This course will give a detailed overview of the historical developments, successes, and set-backs in AI, as well as modern approaches in the development of artificial intelligence.This course gives an introduction to reinforcement learning, a process similar to how humans and animals experience the world: exploring the environment and inferring the best course of action.This course also covers the principles of natural language processing and computer vision, both of which are key ingredients for an artificial intelligence to be able to interact with its environment.

Course Outcomes

On successful completion, students will be able to

- chart the historical developments in artificial intelligence.
- understand the approach of contemporary AI systems.
- comprehend the concepts behind reinforcement learning.
- analyze natural language using basic NLP techniques.
- scrutinize images and their contents.

Contents

1. History of AI
   - 1.1 Historical Developments
   - 1.2 AI Winter
   - 1.3 Expert Systems
   - 1.4 Notable Advances
2. Modern AI Systems
   - 2.1 Narrow versus General AI
   - 2.2 Application Areas
3. Reinforcement Learning
   - 3.1 What is Reinforcement Learning?
   - 3.2 Markov Chains and Value Function

3.3 Time-Difference and Q Learning

4. Natural Language Processing (NLP)
   - 4.1 Introduction to NLP and Application Areas
   - 4.2 Basic NLP Techniques
   - 4.3 Vectorizing Data

5. Computer Vision
   - 5.1 Introduction to Computer Vision
   - 5.2 Image Representation and Geometry
   - 5.3 Feature Detection
   - 5.4 Semantic Segmentation

Literature

Compulsory Reading

Further Reading

- Bear, F., Barry, W., & Paradiso, M. (2020). Neuroscience: Exploring the brain (4th ed.). Lippincott Williams & Wilkins.
- Chollet, F. (2018). Deep learning with Python. Manning.
- Geron, A. (2017). Hands-on machine learning with Scikit-Learn and TensorFlow. O'Reilly.
- Géron, A. (2019). Hands-on machine learning with Scikit-Learn, Keras, and TensorFlow: Concepts, tools, and techniques to build intelligent systems (2nd ed.). O'Reilly.
- Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep learning. MIT Press.
- Grus, J. (2019). Data science from scratch: First principles with Python. O'Reilly.
- Jurafsky, D., & Martin, J. H. (2022). Speech and language processing (3rd ed.). Prentice Hall.
- Russell, S. J., & Norvig, P. (2022). Artificial Intelligence: A modern approach (4th ed., global ed.). Pearson.
- Sutton, R. S., & Barto, A. G. (2018). Reinforcement learning: An introduction (2nd ed.). MIT Press. (Adaptive Computation and Machine Learning series).
- Szeliski, R. (2022). Computer vision: Algorithms and applications (2nd ed.). Springer. (Texts in Computer Science series).

Study Format myStudies

Study Format	Course Type
myStudies	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Theory Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** yes
Type of Exam	Exam, 90 Minutes

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
90 h	0 h	30 h	30 h	0 h	150 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Course Feed	☑ Course Book	☑ Practice Exam
☑ Intensive Live Sessions/Learning Sprint	☑ Video	☑ Online Tests
☑ Recorded Live Sessions		

Project: AI Excellence with Creative Prompting Techniques

Course Code: DLBPKIEKPT01_E

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

Course Description

In this course, students explore the fascinating world of prompting in generative AI applications. They engage in hands-on exercises to create new AI-generated content including text, images, and videos. Through these exercises, students learn how to effectively use, analyze, and evaluate these systems within their respective fields of study.

Course Outcomes

On successful completion, students will be able to

- comprehend and apply basic prompting techniques in generative AI applications.
- analyze and evaluate the effectiveness of the basic prompts.
- apply ethical considerations to the design and use of AI for basic prompting techniques.
- design, implement, and refine effective prompts to real-world scenarios through hands-on exercises.
- showcase creative and innovative thinking in the application of prompting techniques to solve complex problems in their field of studies.

Contents

- In this course, students work on a basic practical implementation of a generative AI use case by choosing from a selection provided in the complementary guideline. The course provides practical examples as learning materials and exercises with basic prompting techniques for open-source text, image, and video generation use cases. The exercises are designed to inspire and guide students in completing their own generative AI use case work, which includes a use case description, chosen prompting techniques, outcomes, and critical evaluations from both technical and ethical perspectives.

Literature
Compulsory Reading
Further Reading ▪ Dang, H., Mecke, L., Lehmann, F., Goller, S., & Buschek, D. (2022). How to prompt? Opportunities and challenges of zero- and few-shot learning for human-AI interaction in creative applications of generative models. arXiv. https://arxiv.org/pdf/2209.01390.pdf ▪ Eapen, T. T., Finkenstadt, D. J., Folk, J., & Venkataswamy, L. (2023). How generative AI can augment human creativity. Harvard Business Review, July–August, 56–64. ▪ Wei, J., Wang, X., Schuurmans, D., Bosma, M. Ichter, B., Xia, F., Chi, E. H., Le., Q. V., & Zhou, D. (2023). Chain-of-though prompting elicit reasoning in large language models. arXiv. https://arxiv.org/pdf/2201.11903.pdf

Study Format Duales myStudium

Study Format	Course Type
Duales myStudium	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Project

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Oral Project Report

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
120 h	0 h	30 h	0 h	0 h	150 h

Instructional Methods	
Tutorial Support ☑ Course Feed ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Exam Preparation** ☑ Guideline

Bachelor Thesis

Module Code: DLBBT

Module Type	Admission Requirements	Study Level	CP	Student Workload
see curriculum	none	BA	10	300 h

Semester / Term	Duration	Regularly offered in	Language of Instruction and Examination
see curriculum	Minimum 1 semester	WiSe/SoSe	English

Module Coordinator

Degree Program Advisor (SGL) (Bachelor Thesis) / Degree Program Advisor (SGL) (Colloquium)

Contributing Courses to Module

- Bachelor Thesis (DLBBT01)
- Colloquium (DLBBT02)

Module Exam Type

Module Exam	Split Exam
	Bachelor Thesis • Study Format "myStudies": Bachelor Thesis • Study Format "Distance Learning": Bachelor Thesis Colloquium • Study Format "myStudies": Colloquium • Study Format "Distance Learning": Colloquium

Weight of Module

see curriculum

Module Contents

Bachelor Thesis

- Bachelor's thesis
- Colloquium on the bachelor's thesis

Colloquium

Learning Outcomes

Bachelor Thesis

On successful completion, students will be able to

- work on a problem from their major field of study by applying the specialist and methodological skills they have acquired during their studies.
- independently analyze selected tasks with scientific methods, critically evaluate them, and develop appropriate solutions under the guidance of an academic supervisor.
- record and analyze existing (research) literature appropriate to the topic of their bachelor's thesis.
- prepare a detailed written elaboration in compliance with scientific methods.

Colloquium

On successful completion, students will be able to

- present a problem from their field of study using academic presentation and communication techniques.
- reflect on the scientific and methodological approach chosen in their bachelor's thesis.
- demonstrate that they can actively answer subject-related questions from the subject experts (reviewers of the bachelor’s thesis).

Links to other Modules within the Study Program	**Links to other Study Programs of the University**
All modules in the Bachelor program	All Bachelor programs in distance learning

Bachelor Thesis

Course Code: DLBBT01

Study Level	Language of Instruction and Examination	Contact Hours	CP	Admission Requirements
BA	English		9	none

Course Description

The aim and purpose of the bachelor's thesis is to successfully apply the subject-specific and methodological competencies acquired during the course of study in the form of an academic dissertation with a thematic reference to the major field of study. The content of the bachelor's thesis can be a practical-empirical or theoretical-scientific problem. Students should prove that they can independently analyze a selected problem with scientific methods, critically evaluate it, and work out proposed solutions under the subject-methodological guidance of an academic supervisor. The topic chosen by the student from their respective field of study should meet the acquired scientific competences, deepening their academic knowledge and skills in order to meet the future needs of the field.

Course Outcomes

On successful completion, students will be able to

- work on a problem from their major field of study by applying the specialist and methodological skills they have acquired during their studies.
- independently analyze selected tasks with scientific methods, critically evaluate them, and develop appropriate solutions under the guidance of an academic supervisor.
- record and analyze existing (research) literature appropriate to the topic of their bachelor's thesis.
- prepare a detailed written elaboration in compliance with scientific methods.

Contents

- The bachelor's thesis must be written on a topic that relates to the content of the respective major field of study. In the context of the bachelor's thesis, the problem, as well as the scientific research goal, must be clearly emphasized. The work must reflect the current state of knowledge of the topic to be examined by means of an appropriate literature analysis. The student must prove their ability to use the acquired knowledge theoretically and/or empirically in the form of an independent and problem-solution-oriented application.

Literature
Compulsory Reading
Further Reading ▪ Lipson, C. (2018). How to write a BA thesis. A practical guide from your first ideas to your finished paper (2nd ed.). University of Chicago Press. ▪ Turabian, K. L. (2013). A Manual for Writers of Research Papers, theses, and dissertations (8th ed.). University of Chicago Press. ▪ Selection of literature according to topic

Study Format myStudies

Study Format	Course Type
myStudies	Thesis Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Bachelor Thesis

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
270 h	0 h	0 h	0 h	0 h	270 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Review Book

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Thesis Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Bachelor Thesis

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
270 h	0 h	0 h	0 h	0 h	270 h

Instructional Methods		
Tutorial Support	**Learning Material**	**Exam Preparation**
☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	☑ Slides	☑ Review Book

Colloquium

Course Code: DLBBT02

Study Level	Language of Instruction and Examination	Contact Hours	CP	Admission Requirements
BA	English		1	none

Course Description

The colloquium will take place after the submission of the bachelor's thesis. This is done at the invitation of the experts. During the colloquium, students must prove that they have independently produced the content and results of the written work. The content of the colloquium is a presentation of the most important work contents and research results by the student as well as the answering of questions by experts.

Course Outcomes

On successful completion, students will be able to

- present a problem from their field of study using academic presentation and communication techniques.
- reflect on the scientific and methodological approach chosen in their bachelor's thesis.
- demonstrate that they can actively answer subject-related questions from the subject experts (reviewers of the bachelor's thesis).

Contents

- The colloquium includes a presentation of the most important results of the bachelor's thesis, followed by the student answering the reviewers' technical questions.

Literature

Compulsory Reading

Further Reading

- Subject specific literature chosen by the student

Study Format myStudies

Study Format	Course Type
myStudies	Thesis Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Colloquium

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
30 h	0 h	0 h	0 h	0 h	30 h

Instructional Methods	
Tutorial Support ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Learning Material** ☑ Slides

Study Format Distance Learning

Study Format	Course Type
Distance Learning	Thesis Course

Information about the examination	
Examination Admission Requirements	**Online Tests:** no
Type of Exam	Colloquium

Student Workload					
Self Study	**Contact Hours**	**Tutorial/Tutorial Support**	**Self Test**	**Independent Study**	**Hours Total**
30 h	0 h	0 h	0 h	0 h	30 h

Instructional Methods	
Tutorial Support ☑ Intensive Live Sessions/Learning Sprint ☑ Recorded Live Sessions	**Learning Material** ☑ Slides