HS PF

MODULE HANDBOOK SPO2019

COURSE OF STUDY FOCUS

BW/
BUSINESS INFORMATION SYSTEMS
-MANAGEMENT & IT
B.Sc.

Status: July 2023

TABLE OF CONTENTS

List of abbreviations

CR	Credits according to the ECTS system
PLH	Examination based on term paper
PLK	Examination based on written exam
PLL	Examination based on laboratory work
PLM	Examination based on oral exam
PLP	Examination based on project work
PLR	Examination based on presentation
PLS	Examination based on research project
PLT	Examination based on written thesis
PVL	Prerequisite examination
PVL-BVP	Prerequisite examination for bachelor interim overall exam
PVL-BP	Prerequisite examination for final bachelor graduation
PVL-MP	Prerequisite examination for final master graduation
PVL-PLT	Prerequisite examination for registration for bachelor thesis
SWS	Contact hours per week
UPL	Non-graded examination (pass/fail only)
WPF	elective subject

Alignment Matrix - Specialization "Business Information Systems - Management & IT“

Module	Knowledge and Understanding			Knowledge Application and Generation Skills		Communication and Collaboration Skills	Academic Integrity and Professionalism
	Knowledge Broadening	Knowledge Deepening	Knowledge Comprehension	Application and Transfer	Scientific Innovation		
BIS1040	x	x			x	x	x
BIS2150	x	x		x		x	
BIS2160	x	x		x		x	x
BIS2220	x	x		x		x	x
BIS2040		x	x		x	x	
LAW2020	x	x		x			
BIS3040		x	x		x	x	x
BIS3050		x	x		x	x	x
BIS3110	x	x		x		x	x
BIS4050		x	x	x	x	x	x

Second stage of study - modules specific to the course of study

BIS2150: PROGRAMMING

Programming	
Module ID	BIS2150
Semester	2
Credits	5
SWS	4
Frequency	Once a year, every summer semester
Associated Courses	BIS2151 Programming (4 SWS / 5 Credits)
Prerequisites	None
Assessment Methods and duration	PLL/PLH/PLM/PLK - 60 minutes
Requirements for granting of credits	Passing of the examination performance (PLK) and programming exercises (PLL)
Significance for the Final Grade	The module counts weighted with its credits in the Bachelor final grade.
Planned group size	max. 35 students
Language	English
Module Duration	1 semester
Module Coordinator	Burkard, Werner
Lecturer(s)	Burkard, Werner
Subject area / course of study	Business Information Systems - Management & IT
Pedagogical Approach	Seminar-style teaching + programming exercises on the computer
Applicability in other programs	Also suitable for students of computer engineering.
Objectives	Students • Basic knowledge of a programming language (Java) • are familiar with the main features of program development and formal languages • can solve tasks in this programming language, provided they are manageable in terms of scope and complexity • are able to structure applications into packages, classes and methods The module serves to broaden and deepen knowledge and to acquire instrumental competence.

Content	• Properties of programming languages, syntax notations • Working with the Integrated Development Environment (IDE) • Basic concepts of object-oriented programming • Data types and variables, expressions, operators and control structures • Simple program structures in a class • Classes, creating objects, method calls • Inheritance and polymorphism • Data management, especially collections and DB accesses Graphical user interfaces (GUI programming) • Processing of programming tasks and application examples
Relation to other modules	This module forms the basis for the later module System Development and also flows into all other courses in the Business Information Systems program where basic knowledge of software development is required.
Workload	In addition to the 4x15 = 60 SWS = 45 h, the students are expected to work about 25 h in the tutorials, to spend about 50 h for the programming tasks and about 20 h for preparation and post-processing, independent literature study and exam preparation. Total therefore 150 h
Literature	• Sierra, K.; Bates, B.: Java from Head to Toe, Cologne. • J. Goll, C. Weiß, F. Müller: Java als erste Programmiersprache, Stuttgart. • H. Balzert: Objektorientierte Programmierung mit Java, Munich. Latest edition in each case
Additional Remarks	Credits earned will count toward the 24-credit requirement in the degree program
Last edited	March 2021

BIS2160: DATA MANAGEMENT

Data Management	
Module ID	BIS2160
Semester	3
Credits	7
SWS	6
Frequency	Once a year, every winter semester
Associated Courses	BIS2161 Database Systems (4 SWS / 4 Credits) AQM2137 Computer Aided Methods for Quantitative Analysis in Business and Economics (2 SWS / 3 Credits)
Prerequisites	None
Assessment Methods and duration	BIS2161: PLH/PLL/PLM/PLK - 60 minutes AQM2137: PLL/PLK/PLP + PLH/PLR - 60 minutes
Requirements for granting of credits	Passing the examination performance (PLK)
Significance for the Final Grade	The module counts weighted with its credits in the Bachelor final grade.
Planned group size	max. 35 students
Language	BIS2161: English AQM2137: German
Module Duration	1 semester
Module Coordinator	Schuster, Thomas
Lecturer(s)	Schuster, Thomas; Kuppinger, Bernd
Subject area / course of study	Business Information Systems - Management & IT
Pedagogical Approach	Seminar teaching
Applicability in other programs	Also suitable for students of computer engineering.
Objectives	Students • know the goals and tasks of managing a DB, the DB design levels, the structure of a DB system, and the tasks and concepts of data integrity and data access protection. • can model data structures for concrete application tasks from a semantic and from a logical point of view • can define, manipulate, query and save application-specific data with SQL and using a powerful database management system. The module primarily serves to deepen knowledge and to impart instrumental competence. Homework and presentation contribute to the teaching of communicative competences.

Content	Databases: • Management and modeling levels of a DB system • Conceptual semantic data modeling • Modeling relational data structures • Data definition by means of SQL • Data manipulation using SQL • External views of the data using SQL • Ensure the confidentiality of the database data Computer-aided systems analysis: • Pattern recognition models and algorithms • Model validation and systematic experimentation
Relation to other modules	This module forms a basis for the later module System Development and also flows into all other courses in the Business Information Systems program, where database knowledge is required.
Workload	In addition to the 6 x 15 = 90 SWS or 70 h of attendance time, students are expected to spend an additional 140 h for preparation and follow-up, independent study of literature, processing of exercises/project work and exam preparation.
Literature	Databases: • Cordts, S.; Blakowski, G.; Brosius, G.: Datenbanken für Wirtschaftsinformatiker, Vieweg + Teubner Verlag. • Kemper, A.; Eickler, A.: Datenbanksysteme - Eine Einführung. Oldenbourg Publisher • Steiner, R.: Grundkurs Relationale Datenbanken. Vieweg+Teubner Verlag. • A. Meier: Relational and post-relational databases, Springer-Verlag. • H. Jarosch: Basic Course in Database Design, Vieweg+Teubner. Computer-aided process analysis: • Schacher, M., Grässle, P.: *Agile enterprises through business rules: The business rules approach,* 2006th ed. Berlin; Heidelberg; New York: Springer. • Salatino, M., Maio, M. D., Aliverti, E.: *Mastering JBoss Drools 6*. Packt Publishing. • Chamoni, P., Gluchowski, P.: *Analytical Information Systems*; Springer Gabler. Latest edition in each case
Additional Remarks	Credits earned in BIS2161 count toward the 24-credit requirement existing in the program.
Last edited	March 2021

BIS1040: TECHNICAL FOUNDATIONS OF BUSINESS INFORMATION SYSTEMS

Technical Foundations of Business Information Systems	
Module ID	BIS1040
Semester	3
Credits	5
SWS	4
Frequency	Once a year, every winter semester
Associated Courses	BIS1041 Technical Foundations of Business Information Systems (4 SWS / 5 Credits)
Prerequisites	None
Assessment Methods and duration	PLL/PLH/PLM/PLK - 60 minutes
Requirements for granting of credits	Passing the examination performance
Significance for the Final Grade	The module counts weighted with its credits in the Bachelor final grade.
Planned group size	max. 35 students
Language	German
Module Duration	1 semester
Module Coordinator	Burkard, Werner
Lecturer(s)	Burkard, Werner
Subject area / course of study	Business Information Systems - Management & IT
Pedagogical Approach	Lecture Seminars
Applicability in other programs	Also suitable for students of computer engineering.
Objectives	Students • know architectural alternatives of modern computer systems and can assess how individual aspects of the architecture can influence the performance of a system • understand how efficient system utilization is only possible through process and storage management • understand in principle how data can be communicated between systems and understand in particular how packet-switching systems work • know the concept of protocols and layers and know how to assign individual data communication tasks to the correct layers

	• know which digital technologies are used today, which architectures they are based on and how end users are connected • know the technical basics of Internet technologies to the extent that they can assess their effects and possibilities in company networks The module primarily serves to broaden and deepen knowledge.
Content	• Hardware concepts and computer architectures • Process management: task and thread management • Memory management • Management of system peripherals and I/O systems • Basics of information theory: the bit, media, signals, carriers • Local networks: packets, frames, error detection • LAN technology Ethernet • Internet technologies: protocols, concepts, architectures
Relation to other modules	This module forms the basis for understanding modern computer and network technology and is incorporated in various facets into all other courses in the Business Information Systems program.
Workload	In addition to the 4 x 15 = 60 SWS attendance time, students are expected to spend an additional 90 h for preparation and follow-up, independent literature study, processing of exercise cases and exam preparation.
Literature	• Comer, D. E.: Computer Networks and the Internet. Munich • Sikora, A.: Technische Grundlagen der Rechnerkommunikation. Munich. • Badach, A.; Hoffmann, E.: Technik der IP-Netze. Munich. • Hein, M.: Ethernet. Bonn • Tanenbaum, A. S.; Goodman, J.: Computer architecture: structures, concepts, fundamentals. Munich • Stallings, W.: Operating Systems, Principles and Implementation. Munich. • Nemeth, E.; Snyder, G.; Seebass, S.; Hein, T. R.: Handbuch zur UNIX Systemverwaltung. Munich Latest edition in each case
Keywords	Hardware, software, network, processes, protocols, communication, operating systems
Last edited	February 2021

BIS2220: SOFTWARE ENGINEERING

Software Engineering	
Module ID	BIS2220
Semester	4
Credits	7
SWS	6
Frequency	Once a year, every summer semester
Associated Courses	BIS2311 Software Engineering (4 SWS / 5 Credits) BIS2212 Human Computer Interaction (2 SWS / 2 Credits)
Prerequisites	None
Assessment Methods and duration	PLL/PLH/PLP/PLM/PLK - 90 minutes
Requirements for granting of credits	Passing the examination performance
Significance for the Final Grade	The module is weighted with its credits in the Bachelor final grade.
Planned group size	max. 35 students
Language	German
Module Duration	1 semester
Module Coordinator	Schuster, Thomas
Lecturer(s)	Schuster, Thomas; Thesmann, Stephan
Subject area / course of study	Business Information Systems - Management & IT
Pedagogical Approach	Interactive course with project work and exercises on the computer
Applicability in other programs	None
Objectives	Students • knows goals and procedures in the context of object-oriented system development • can apply object-oriented analysis techniques to practical problems using UML • can understand the appropriateness of suitable system architectures and design them themselves in outline • Knows principles, methods, perceptual-psychological factors as well as techniques for designing human-computer interaction • Can understand the implementation of a simple, manageably complex application and implement it themselves in Java and other web technologies

Content	• Motivation and procedure model for object-oriented software development • Selected elements of the Unified Modeling Language in detail • Methods for requirements analysis • Methods for analysis and design • Design of human-computer interaction • System architecture design • Implementation of an application example in Java and PHP Selected elements of the Unified Modeling Language in detail The module serves to broaden and deepen knowledge and to acquire instrumental competence
Relation to other modules	The module builds on the Business Information Systems modules of the previous semester and prepares students for the subsequent modules of the 6th and 7th semesters of study.
Literature	• Larman, C.: UML 2 and Patterns Applied. Object-oriented system development. Heidelberg u.a.: mitp-Verlag. • Rau, K.-H.: Objektorientierte Systementwicklung - Vom Geschäftsprozess zum Java-Programm. Wiesbaden: Vieweg Verlag. • Thesmann, S.: Interface Design: Designing Usability, User Experience and Accessibility on the Web. Springer Verlag. Each latest edition of the acquisition of instrumental skills.
Workload	The course is based on two textbooks. Students have to prepare the individual chapters before class according to a detailed schedule. In the lectures, the contents are deepened and consolidated by applying the methods and tools to examples. In addition, a larger task is to be worked on in a team of two to three students accompanying the course and coordinated with the lecturer. The designed system must then be implemented in Java/PHP to an agreed extent. The following workload estimate can be derived from this: Attendance of the course (15*6) 90 hours Preparation by reading the chapters (15*3) 30 hours. Ongoing processing of the task in the team (15*4) 60 hours Follow-up of the course (15*1) 15 hours Exam preparation 15 hours
Additional Remarks	The module constitutes a prerequisite examination for the thesis module THE4999.
Keywords	UML, OOA, OOD, OOP, Java, JEE, PHP, GUI, HCI
Last edited	February 2021

BIS2040: BUSINESS PROCESS AND PROJECT MANAGEMENT

Business process and project management	
Module ID	BIS2040
Semester	4
Credits	7
SWS	6
Frequency	Every semester
Associated Courses	BIS2041 Business Process Management (2 SWS/ 2 Credits) BIS20411 Transactional Processing Systems (2 SWS/ 2 Credits) BIS2042 Methods of Project Management (2 SWS / 3 Credits)
Prerequisites	None
Assessment Methods and duration	BIS2041 Business Process Management and BIS20411 Transactional Processing Systems: PLL/PLK - 60 minutes. BIS2042 Methods of Project Management: PLP/PLK - 60 minutes
Requirements for granting of credits	Passing of the respective examination performance in the associated courses
Significance for the Final Grade	The module is weighted with its credits in the Bachelor final grade.
Planned group size	BIS2041 Business Process Management: max. 50 students per group BIS20411 Transactional Processing Systems: max. 25 students per group. BIS2042 Methods of Project Management: max. 50 students per group.
Language	German
Module Duration	1 semester
Module Coordinator	Morelli, Frank
Lecturer(s)	Schätter, Frank; Morelli, Frank; Schuler, Joachim
Subject area / course of study	Business Administration / Business Information Systems - Management and IT
Applicability in other programs	Offered concurrently in the Bachelor's degree programs: Business Administration / Business Information Systems - Management & IT Business Administration / Purchasing and Logistics

Pedagogical Approach	BIS2041 Business Process Management: Lecture with Workshops, Exercises, and Lab Work: BIS20411 and Transactional Processing Systems: Lecture with Workshops, Exercises, and Lab Work. BIS2042 Methods of Project Management: Lectures with case study processing and group presentations and workshops.
Objectives	<u>Business Process Management and Transactional Processing Systems:</u> The students • Understand basic concepts of enterprise process design and current trends in the field. • have the ability to independently map concrete business processes using the BPMN 2.0 modeling method, analyze them with the help of organizational as well as IT-supported tools, and provide optimization proposals • understand business processes as a starting point for the design of operational information systems • recognize the interactions and the interaction of the essential business processes from the area of logistics such as procurement, inventory management, supply chain, etc. and their mapping to IT systems using the example of SAP S/4HANA as well as the importance of integration aspects in ERP systems • understand business processes as a starting point for the design of operational information systems • understand basic concepts of ERP systems in logistics using SAP MM as an example. • can explain relationships between framework conditions in the company and system characteristics. • have the ability to explain integration aspects and automation potentials between operational logistics processes and the reference to financial accounting in an exemplary manner. • have competencies in the application of IT-based optimization principles in logistics business processes. • can use SAP ERP as a user in the field of logistics. <u>Methods of Project Management:</u> The students • are proficient in method-based planning and structuring of complex projects • acquire cooperative and coordinative skills through team exercises • can apply the acquired knowledge to student projects and to projects in the field of business process management. The module serves to deepen knowledge, building on the basics of the previous semesters. Through the in-depth elaboration of given workshop topics, exercises, laboratory work and

	projects, students acquire instrumental and systemic competence; through the preparation and implementation of the workshops and projects, they develop their communicative skills.
Content	Business Process Management and Transactional Processing Systems: This event conveys • a general overview of the topic "Business process management“ • basic concepts for the enterprise process design as well as current trends in this area • methodical procedures for modeling, analysis and optimization of business processes. • in detail: Process management basics, process modeling with BPMN 2.0, principles and organization of business process management, SCOR model, process analysis and optimization as well as business process management in the enterprise • Business processes as a starting point for the Design and optimization of operational information systems • basic concepts of Software application systems in logistics • SAP S/4HANA basics such as organizational units and master and transaction data in the area of logistics • Mapping of logistics business processes to the ERP system SAP S/4HANA Methods of Project Management: This event offers • a general overview of the topic "project management" according to the IPMA approach. The focus is on the acquisition of basic planning and control competencies in complex projects • especially on the basics of project management: phase models in project management, project planning and project control, project organization, as well as project controlling and multi-project management (program management).
Relation to other modules	The module builds on the module "Quantitative Methods 1" (network technique).
Literature	• Gadatsch, A.: Grundkurs Geschäftsprozess-Management: Methoden und Werkzeuge für die IT-Praxis: Eine Einführung für Studenten und Praktiker, Springer-Vieweg Verlag, Wiesbaden • Freund, J. / Rücker, B.: Praxishandbuch BPMN, Carl Hanser Verlag, Munich

	• Schmelzer, H. / Sesselmann, W.: Geschäftsprozess-Management in der Praxis, Carl Hanser Verlag, Munich • Fischermanns, G.: Praxishandbuch Prozessmanagement, Verlag Dr. Götz Schmidt, Gießen • Göpfert, J. / Lindenbach, H.: Geschäftsprozessmodellierung mit BPMN 2.0, Oldenbourg Verlag, München • SAP University Alliances (UA) documents on SAP S/4HANA (slides, exercises, case studies) • SAP Help Portal and SAP Glossary • Hellberg, T.: Purchasing with SAP MM. Processes, Functions, Customizing, Gallileo Press, Bonn et al. • Schulz, O.: The SAP Basic Course. For Beginners and Advanced Users, SAP Press, Boston. • Schelle, H., Ottmann, R., Pfeiffer, A.: ProjektManager, German Association for Project Management, Nuremberg
Workload	**BIS2041 Business Process Management** (2 credits, workload 60 h) Contact hours: 2 x 15 SWS approx. 20 h Preparation, rework approx. 20 h Exam preparation approx. 20 h **BIS20411 Transactional Processing Systems** (2 credits, workload 60 h) Contact hours: 2 x 15 SWS = 30 h Preparation, and rework 15 h SAP exercises, eLearning units: 30 h **BIS2042 Methods of Project Management** (3 credits, workload 90 h) Contact hours 2 x 15 SWS approx. 20 h Preparation and rework approx. 20 h Exam preparation approx. 20 h Case study processing approx. 30 h
Additional Remarks	The module is a preliminary examination for the thesis module THE4999. The PLP examination is generally carried out in the form of teamwork in groups as part of the "Methods of Project Management" course. The sub-course BIS2042 Methods of Project Management is usually organized as a fast track (completion of the examination(s) well before the normal examination period).
Keywords	Business process management, business processes, business process modeling, business process analysis, business process optimization, principles of business process management, organization of business process management, business process maturity models, business process management, BPMN, supply chain management, SCOR model project management, phase models, project planning, project control, project organization, project controlling, multi-project management, program management, agile project management, SCRUM, hybrid project management, stakeholder analysis, risk analysis, earned

	value analysis, milestone trend analysis, ERP systems, transaction systems, SAP S/4HANA, digital transformation, digital technologies
Last edited	February 2021

LAW2020: ADVANCED LAW

Advanced Law	
Module ID	LAW2020
Semester	4
Credits	5
SWS	4
Frequency	Summer semester only
Associated Courses	LAW2025 IT Law (4 SWS / 5 Credits)
Prerequisites	None
Assessment Methods and duration	PLK - 90 minutes
Requirements for granting of credits	Successful passing of the examination performance
Significance for the Final Grade	The module is weighted with its credits in the Bachelor final grade.
Planned group size	approx. 50 students
Language	German
Module Duration	1 semester
Module Coordinator	Brönneke, Tobias
Lecturer(s)	Buchmann, Felix
Subject area / course of study	Business Law
Pedagogical Approach	Lecture and seminar teaching
Applicability in other programs	None
Objectives	The students • recognize legal issues at the interface with information technology and can assess their relevance. • have the necessary technical-methodical basics to deal with simple legal questions from the field of IT law. • are able to engage in solution-oriented discussions with business lawyers/legal experts about the legal problems at the interface with information technology and to participate adequately in the appropriate resolution of the issues. In addition to deepening knowledge, the module primarily serves to broaden and deepen knowledge and to acquire instrumental competence.
Content	• Multimedia law • Legal issues of e-commerce • Drafting of contracts in the field of IT projects • Digital signatures or legally secure communication • Preservation of trade secrets in communication via open networks/data protection law

	• Concise overview of industrial property rights • Copyright • Drafting of contracts in IT law (in particular procurement contracts, licensing and performance contracts)
Relation to other modules	The module builds on the modules Law I and Law II.
Literature	Required legal texts: • IT und Computerrecht Beck dtv -Texte latest edition References: • Rainer Koitz, Informatikrecht • Abbo Junker/Martina Benecke, Computerrecht • Axel Benning/Jörg-Dieter Oberrath, Computer- und Internetrecht • Alexander Rossnagel, Recht der Multimediadienste (Loseblattsammlung) • Thomas Hoeren/Ulrich Sieber, Handbuch Multimediarecht (Loseblattsammlung) • Eisenmann/Jautz, Gewerblicher Rechtsschutz und Urheberrecht Latest edition in each case
Workload	In addition to the 4 x 15 = 60 h of attendance time, students are expected to spend an additional 90 h for preparation and follow-up, independent study of literature, processing of exercise cases and exam preparation.
Additional Remarks	The module constitutes a prerequisite examination for the thesis module THE4999.
Keywords	Multimedia law, contract drafting, data protection law, copyright law
Last edited	February 2021

BIS3040: PROJECT

Project	
Module ID	BIS3040
Semester	6
Credits	5
SWS	2
Frequency	Every semester
Associated Courses	BIS3041 Project Work (2 SWS / 5 Credits)
Prerequisites	Successfully completed first stage of studies
Assessment Methods and duration	PLP
Requirements for granting of credits	Successful passing of the examination performance
Significance for the Final Grade	The module is weighted with its credits in the Bachelor final grade.
Planned group size	5 groups of 4 students = 20 students
Language	German
Module Duration	1 semester
Module Coordinator	Current Dean of Studies BWMI, (SS21), Schuster, Thomas
Lecturer(s)	Professors of the Business Administration / Business Information Systems - Management & IT program
Subject area / course of study	Business Information Systems - Management & IT
Applicability in other programs	Partially suitable (depending on the topic) also for students of computer engineering.
Pedagogical Approach	Project
Objectives	Students will be able to: • identify and structure operational problems in the use of information systems • Design or implement creative solutions for the successful use of information systems or the optimization of operational processes. • Accomplish a specified project goal in collaboration with other fellow students within a specified time. • organize the work in the team independently In addition to deepening knowledge, the module primarily serves the acquisition of instrumental, systemic and communicative competencies.
	• Current, complex, practical tasks in the field of business information systems.

Content	• The projects are usually carried out directly in cooperation with companies • Coaching of the project teams regarding project planning and organization • The work is done in teams under the guidance and supervision of the teacher. At the end, the results are presented to the client.
Relation to other modules	Solid knowledge from all courses of business informatics of the semesters 1 - 5 is required.
Literature	Current, topic-related publications
Workload	Contact time (client, coaching): 30h Processing of the project task in the team:100h Prepare and conduct presentation: 20h
Keywords	Practice Project, Design of the use of information systems
Last edited	February 2021

BIS3050: WEB APPLICATIONS

Web applications	
Module ID	BIS3050
Semester	6
Credits	5
SWS	2
Frequency	Every semester
Associated Courses	BIS3051 - Web Applications (2 SWS / 5 Credits)
Prerequisites	Successfully completed first stage of studies
Assessment Methods and duration	PLL/PLP/PLK - 60 minutes
Requirements for granting of credits	Passing of all examination performances.
Significance for the Final Grade	The module is weighted with its credits in the Bachelor final grade.
Planned group size	35 students
Language	German
Module Duration	1 semester
Module Coordinator	Thesmann, Stephan
Lecturer(s)	Thesmann, Stephan
Subject area / course of study	Business InformationSystems - Management & IT
Applicability in other programs	None
Pedagogical Approach	Lecture with project work
Objectives	The course offers a life-cycle oriented overview of the development process of a web-based application system. The aim is to impart the ability to analyze, design and independently realize multimedia application systems as well as to independently manage multimedia projects of medium size and complexity. The student • can recognize the potential for optimization in the design of business processes by providing information and functions with web applications that are appropriate to the target group and task. • Understands the fundamentals of user-friendly web applications with special attention to accessibility and search engine optimization. • can design and document user-friendly, target group and task-oriented web applications with the help of suitable modeling techniques for practical problems. • can make a reasoned selection of suitable hardware, software (programming languages, development environments, tools, etc.), and data and compression methods.

	• can implement manageably complex web application using appropriate tools and web technologies. • can be used productively in a web development project of medium size and complexity and manage sub-projects there independently. The module serves to deepen knowledge as well as to acquire instrumental, systemic and communicative competences.
Content	• Basics (human information processing, accessibility, search engine optimization • Exposé (description of objectives, general conditions, cost estimate, benefit estimate) • Treatment (phase organization, quality assurance measures, system ergonomics, selection and structuring of content, information procurement and management, legal aspects, design of screen structure with wireframes, design laws, user expectations, eye-tracking, design of navigation paths, calculation of data volume, preliminary calculation) • Script (integrative view in storyboard, design of human-machine dialog, principles of dialog design, interaction diagram, user interface design, style guide, colors, shapes, text design, macrotypography, microtypography, image design, design of audio elements, video design, design of animations, interaction elements, orientation elements, navigation elements, messages, help, provider identification, feasibility analysis, project management) • Media objects (file formats, compression methods, media tools) • Implementation project (HTML, CSS, Scripting, CMS, DAM)
Relation to other modules	The module is based on BIS 1050 - Introduction to Information Systems and BIS2220 - Software Engineering.
Literature	• Thesmann, S., Interface Design: Designing Usability, User Experience and Accessibility on the Web. Springer Verlag.
Workload	The course is based on a textbook. Students have to prepare the individual chapters before class according to a detailed schedule. In the lectures, the contents are deepened and consolidated by applying the methods and tools to examples. In addition, a larger task is to be worked on in a team of two to three students accompanying the course and coordinated with the lecturer. The designed system must then be implemented to the agreed extent using suitable tools. The following workload estimate can be derived from this: Preparation of the course (15 * 2 =) 30 hours Attendance of the course (15 * 2 =) 30 hours Follow-up of the course (15 * 1 =) 15 hours Processing of the task in the team (15 * 4 =) 60 hours Exam preparation 15 hours
Additional Remarks	BIS1050 and BIS 2220 should be successfully completed, basic HTML knowledge is required.

	Students may also take the module as part of a study abroad semester for the same credits and approximately identical scope of topics.
Keywords	Web applications, accessibility, search engine optimization, content management, media objects, UXD, UID, HTML, CSS, scripting, CMS, DAM
Last edited	February 2021

BIS3110: ELECTIVES IN BUSINESS INFORMATION SYSTEMS

Electives in Business Information Systems	
Module ID	BIS3110
Semester	6
Credits	6
SWS	4
Frequency	Every semester
Associated Courses	BIS3012 Transactional Processing Systems in Logistics (2 SWS / 3 credits, in English) PAL3111 e-business and Supply Chains (2 SWS / 3 Credits, in English) HRM3101Leadership (2 SWS / 3 Credits, in English) BREM3111 Methods of Quality Management (2 SWS / 3 Credits, in English) BIS3061 Internet of Everything (2 SWS / 3 Credits, in Englisch) BIS3062 Organizational Networks (2 SWS / 3 Credits, in English) BIS3063 Anything-Relationship-Management (2 SWS / 3 Credits, in English) BIS3064 Mobile Solutions (2 SWS / 3 Credits, in English) BIS3065 Smart Factory (2 SWS / 3 Credits, in English) BIS3066 Big Data Management (2 SWS / 3 Credits, in English) IDS3010 Interdisciplinary Studies The above-mentioned courses are offered in English. Alternative or supplementary offers - also in German - are possible on the part of the study program. E.g. Methods of Quality Management.
Prerequisites	Successfully completed first stage of studies
Assessment Methods and duration	PLL/PLP/PLR/PLH/PLK - 45 and 60 minutes respectively.
Requirements for granting of credits	In each case: Passing of the respective examination performances WPF offerings in the amount of 6 credits must be successfully completed

Significance for the Final Grade	The module is weighted with its credits in the Bachelor final grade.
Planned group size	max. 25 students
Language	German or English
Module Duration	1 semester
Module Coordinator	Dean of Students on the Faculty Board
Lecturer(s)	Professors of different courses of study / subject areas
Subject area / course of study	Business Information Systems - Management & IT
Applicability in other programs	None
Pedagogical Approach	Lecture with project work
Objectives	The WPF module is designed to provide students with the opportunity for an individualized focus related to their program of study. The objectives differ depending on the WPF offered: The module primarily serves to broaden and deepen knowledge and to acquire instrumental competence.
Content	• e-business and Supply Chains • Quality management methods • Transactional Processing Systems in Logistics • e-business and Supply Chains • Leadership • Internet of Everything • Organizational Networks • Anything Relationship Management • Mobile Solutions • Smart Factory • Big Data Management
Literature	Depending on the selected WPF offer
Workload	2 x 15 SWS = 30 SWS attendance time, plus 60 hours each for preparation and follow-up, independent literature study, processing of case studies and exercises, and exam preparation.
Additional Remarks	The module or an individual course of the module can also be completed as part of a semester abroad. Modules or events related to the main focus of the study program are eligible for recognition. English-language courses within the module are offered as part of the International Study Program. The credits earned will be counted toward the 24-credit requirement of the program. The elective courses, especially if they are offered in English by visiting professors, can be organized as fast-track courses with an examination well before the normal examination period.
Last edited	March 2021

BIS4050: CAPSTONE BUSINESS INFORMATION SYSTEMS

Capstone Business Information Systems	
Module ID	BIS4050
Semester	7
Credits	8
SWS	2
Frequency	Every semester
Associated Courses	BIS4051 Seminar (1 SWS / 5 Credits) BIS4052 Case Studies (1 SWS / 3 Credits)
Prerequisites	Successfully completed first stage of studies
Assessment Methods and duration	BIS4051 Seminar: PLR/PLH BIS4052 Case Studies: PLR/PLH/PLK - 90 minutes.
Requirements for granting of credits	Successful completion of the respective examinations in each case
Significance for the Final Grade	The module is weighted with its credits in the Bachelor final grade.
Planned group size	25 students
Language	German
Module Duration	1 semester
Module Coordinator	Thesmann, Stephan
Lecturer(s)	Thesmann, Stephan
Subject area / course of study	Business Information Systems - Management & IT
Applicability in other programs	None
Pedagogical Approach	Lecture with project work
Objectives	<u>Seminar</u> The students • are able to independently develop and present a complex topic; • can process scientific literature and/or systematize and incorporate (possibly indirect) practical experience • are familiar with the basics and also with some details from the field of operational information systems • can write a seminar paper • have all the requirements for the preparation of a thesis.

	<u>Case studies</u> The students • recognize the impact of information systems on business models • Understand the management of information systems to achieve strategic competitive advantage. • gain the ability to make decisions on the planning and application of information systems in complex case studies The module thus primarily serves to deepen knowledge and to acquire instrumental, systemic and communicative competence.
Content	<u>Seminar</u> The contents are determined in each case up to date <u>Case studies</u> • The case studies are currently selected • The course offers the opportunity to work independently in a group on questions from the interface area of business administration and business informatics and to present the results.
Relation to other modules	Builds on all previous modules in the major and links the content discussed there.
Literature	Current, topic-related publications
Workload	Contact hours (7*4=) 28 hours Term paper preparation 114 hours Preparation of presentation 15 hours Preparing the other sessions (6*4=) 24 hours Preparing case presentation 59 hours **Total** **240 hours**
Keywords	Business Information Systems, Case Study, Seminar
Last edited	February 2021