

Module Manual Business Informatics

Compulsory Modules: Wirtschaftsinformatik		
Compulsory Module "General Business and IT Competence"		
3WI-PROG-10	Programming	
The module imparts the knowledge and skills required to proceed from the problem definition via the algorithm to the user-friendly and efficient program. Apart from the basics of programming, the module focuses in particular on the object-oriented paradigm.	1st Semester	6 ECTS
3WI-UGU-10	Companies in a Global Environment	
Students gain an overview of the foundations of business administration. They are familiar with the basic categories of modern management theory. The importance of organization in the process of division of labor and the integration of marketing in the context of business management decisions round off this topic. Students also acquire basic macroeconomic knowledge, which enables them to analyze and assess business issues from a macroeconomic perspective.	1st Semester	7 ECTS
3WI-WIMA-10	Business Mathematics	
This module provides students with the mathematical tools for successfully studying the contents of Business Informatics. The following areas of mathematics are particularly important for understanding the combination of business administration and informatics: analysis, linear algebra, financial mathematics, descriptive statistics, probability theory, inductive statistics, linear optimization, optimization models, reliability theory and operating theory. The module takes a problem-oriented approach that is mainly based on instructive practical examples.	1st Semester	6 ECTS
3WI-DB-20	Databases	
The module imparts knowledge and skills in the modeling, application and administration of relational database systems. In practical exercises students can test their skills on concrete database management systems thus deepening their knowledge.	2nd Semester	6 ECTS

3WI-REWE-20	External and Internal Accounting	
The module offers an introduction to the topic of external and internal accounting. Focus is laid on the foundations and techniques of accounting as well as cost type, cost center, cost unit and contribution margin accounting. Furthermore, the module deals with the objectives and conceptual principles of external accounting as well as the basic arithmetic units. Starting from the economic purpose of accounting, legal bases and the concrete design of national and international accounting are discussed.	2nd Semester	7 ECTS
3WI-TGI-20	Theoretical Foundations of Informatics	
The module focuses on selected topics from the fields of logic and algebra, algorithms and data structures, complexity and automata theory as well as formal languages.	2nd Semester	5 ECTS
3WI-SE-30	Software Engineering	
The module imparts knowledge of the development of modern software systems. Main focus is placed on gaining an understanding of the architecture of large, operational information systems.	3rd Semester	7 ECTS
3WI-RAKS-30	Computer Architecture / Communication Systems	
The first part of the module imparts knowledge of the organization and interaction of the hardware components of a computer kernel as well as operating systems as a necessary component for the management and allocation of hardware resources (both from the point of view of different paradigms). The second part of the module covers the domain of communication systems with an introduction to the physical and organizational principles of information transmission in computer networks and the demonstration of transmission using the OSI model as an example.	3rd Semester	6 ECTS
3WI-VWL-30	Macroeconomics	
The module imparts fundamental knowledge of the main macroeconomic issues and interrelationships and enables students to understand and evaluate these issues and problems and to draw appropriate conclusions.	3rd Semester	6 ECTS

3WI-MAWI-30	Materials Management	
The module provides an introduction to industrial management and imparts the principles of materials management. This includes the analytical instruments of materials management as well as procurement planning and procurement disposition.	3rd Semester	5 ECTS
3WI-FIMA-40	Financial Management	
The module characterizes investment and financing as core areas of financial management. Furthermore, students are familiarized with the fundamentals and systematics of selected types of business taxes (income tax, corporation tax, trade tax, VAT) and the procedural law of the German Fiscal Code.	4th Semester	5 ECTS
3WI-RECHT-45	Law	
<p>The module provides an introduction to the foundations and general concepts of private law as well as legal working methodology. By means of case discussions, students become acquainted with the legal possibilities of private autonomous arrangements (declaration of intent, legal transaction, contract) as well as the types and contents of contractual and non-contractual obligations and the rules on default. Furthermore, students are familiarized with the basic principles of property law.</p> <p>The module also imparts knowledge of the special private law of merchants and their auxiliaries with regulations concerning the company, the commercial register and commercial transactions. Moreover, students are given an overview of the various legal forms of companies. They are familiarized with the fundamental differences between partnerships and corporations in terms of formation, management, representation and liability. By examining concrete cases, this module conveys the principles of individual and collective labor law. Students are familiarized with the legal conditions for the establishment, content and termination of an employment relationship. They learn how to deal with collective agreements and the mechanisms of industrial disputes and gain an insight into the law of co-determination. Furthermore, students will gain a fundamental knowledge of the legal framework of information and communication technology as well as the specifics of Internet law with a focus on competition, copyright and contractual law.</p>	4th + 5th Semester	8 ECTS

3WI-COMA-56	Corporate Management	
<p>Against the background of globalization and internationalization, students are familiarized with the essential contents and methods of corporate management. For a holistic understanding, focus is placed on the discussion of systemic relationships. The theory-based discussion of the levels of corporate management (normative, strategic and operative) is expanded to include innovative management and control methods from practice. Furthermore, students are introduced to basic concepts of human resources management in general and employee management in particular. Case studies complement and deepen the discussion of the discussed topic areas.</p> <p>The TOPSIM - General Management II business game is a sophisticated, generic and up-to-date industrial business game. It deals with all areas of a company from production, purchasing, personnel planning, research and development to marketing and sales, and includes the topics of product life cycles, personnel qualification, productivity, rationalization, environmental aspects, share price, company value and rating. An extensive reporting system (internal accounting with detailed cost accounting, external accounting, detailed market research reports) provides the information for the participants' decisions. Alternatively to the TOPSIM General Management II business game, an equivalent business game from another provider may be used.</p>	5th + 6th Semester	8 ECTS
3WI-WIBAS-60	Knowledge-based Systems	
<p>As an essential prerequisite for intelligence and the intelligent behavior of a system, the field of Artificial Intelligence demands the existence of an internal model of the external world and the ability to draw reasonable, appropriate and rational conclusions from available knowledge. Based on the approaches of Artificial Intelligence, this module imparts knowledge and methods of knowledge-based systems, theoretical foundations of knowledge representation, development methods and possible applications. Students participate in exercises with selected software to test and deepen their knowledge.</p>	6th Semester	5 ECTS

Compulsory Modules " Special Business Informatics Competence "		
3WI-EWI-10	Introduction to Business Informatics	
The module provides an introduction to the study of business informatics. This includes basic knowledge of computer science and business informatics. The functionality of essential hardware and software components in companies is explained. Students are familiarized with the structure of their studies and future scientific work. The acquired competence in self- and time management enables them to independently plan, coordinate and analyze their studying and working style.	1st Semester	5 ECTS
3WI-MDWI-20	Methods of Business Informatics	
The module imparts fundamental knowledge and skills concerning core competencies in business informatics, ranging from the gathering of requirements for system analysis to system design, while at the same time focusing on the respective requirements and tasks of IT project management. The understanding of object orientation is promoted by the use of the Unified Modeling Language (UML)	2nd Semester	6 ECTS
3WI-ITM-40	IT Management	
The module imparts measures and methods to optimally design the business processes of a company by means of IT organization and to operate the necessary information technology. This includes information on methods of business process analysis and optimization as well as measures and methods of IT service management and related areas. An exercise using the ARIS business process management tool enables students to apply and consolidate the course contents.	4th Semester	5 ECTS
3WI-ITSK-60	IT Service and Concepts	
This module conveys current approaches to integrative service and information management structures as well as the associated technologies and concepts. Furthermore, students are introduced to the opportunities and risks of electronic business and the increasing digitalization of information.	6th Semester	5 ECTS

Compulsory Modules "Personal, Social and Language Competence"		
3WI-EBIS-45	English Business Information Systems	
<p>This English language module meets the needs of Bachelor students in a cooperative degree course and provides an introduction to general aspects of economics and computer science in a company environment. It systematically develops key language skills for efficient communication in this field. Great emphasis is placed on helping students boost their lexical range (terminology). As the second step within a two-level modular business and special English course, this part encourages students to sharpen their communication skills and draw on their own experience at work. Authentic materials and motivating activities provide constant opportunities for discussion, offer an intercultural perspective and maximize learner involvement.</p>	4th + 5th Semester	9 ECTS
3WI-MTITP-56	Management Techniques in IT Projects	
<p>In group work, students learn how an IT system is designed and implemented under practical conditions. They apply modern methods of system analysis/system design and project management to a concrete practical task on the computer using a current programming language. Students acquire the necessary knowledge for the development of complex IT solutions using current technologies and tools. Through their own experience as part of a project group and the acquisition of management techniques, students develop and consolidate their ability to work in a team, their leadership behavior as well as moderation and conflict management skills in the area of social competence.</p>	5th + 6th Semester	9 ECTS
Compulsory Elective Modules		
3WI-SFGW-40	Health Care Structures and Financing	
<p>Students are familiarized with the basic structures and interrelationships of the health care system. They understand the complexity of the medical business and are able to evaluate the role of the persons involved. Students get to know important regulations and nomenclatures. Knowledge of the language, structure and processes of the health care system is a prerequisite for the solution of business informatics tasks in this field. Furthermore, students become acquainted with the financing of the health care system.</p>	4th Semester	5 ECTS

3WI-VBWEG-40	Administrative Business Management and E-Government	
The module imparts the foundations for understanding public business management and e-government.	4th Semester	5 ECTS
3WI-LOQM-40	Logistics and Quality Management	
The module imparts knowledge of logistics and quality management. Apart from basic terms, the different types of logistics and their relation to quality management are discussed. Students deepen their knowledge in a business game and a case study.	4th Semester	5 ECTS
3WI-BK-40	Office Communication	
In this module, students acquire and deepen practical skills in the fields of office communication and standard software.	4th Semester	5 ECTS
3WI-QMNSG-50	Quality Management and New Health Care Structures	
Students are familiarized with new structures and forms of cooperation in the health care system and their requirements for medical information systems. Furthermore, they get an overview of quality management in the health care system.	5th Semester	5 ECTS
3WI-ERP-50	ERP Systems	
The module provides basic and advanced knowledge of ERP systems. Apart from a functional overview, this includes the structure and mode of operation of ERP systems. A market overview and current trends round off this subject area. Students participate in an exercise with a suitable ERP system to apply and deepen their knowledge of the course contents.	5th Semester	5 ECTS
3WI-ZDT-50	Future Workshop »Digital Transformation«	
The module provides an introduction to the topic of digital transformation. Building on basic social structures, as described by the French philosopher André Comte-Sponville, the module aims to examine the phenomenon of digitalization and to understand and evaluate its multiple - digitally transforming - effects on society, companies and individuals: on a scientific-technical, political-legal, moral and ethical level.	5th Semester	5 ECTS

3WI-ERPV-50	ERP Systems in Administration	
The module addresses how ERP systems can be used to support business processes in public administrations. This includes both logistical and financial processes and their implementation in ERP systems. Furthermore, the module deals with the structure and architecture of ERP systems as well as trends and various integration models. Students participate in an exercise with a suitable ERP system to apply and deepen their knowledge of the course contents.	5th Semester	5 ECTS
3WI-VSE-60	Consolidation Software Engineering	
The module conveys current practice-relevant topics of software engineering. In particular, the techniques and methods of programming are deepened by means of case studies.	6th Semester	5 ECTS
3WI-MSS-60	Management Support Systems	
In ideal or hypothetical business situations, the module confronts students with the task of applying the knowledge gained in the basic subjects of business administration and computer science. They demonstrate their ability to work in a team and apply basic technologies for data management and data processing to fulfil administrative and managerial corporate functions.	6th Semester	5 ECTS
3WI-IKK-60	Intercultural Competence	
In this module, students acquire intercultural, social and communicative skills. After completion of the module, students are able to grasp culturally determined differences in perception, thinking, feeling, acting and judging in themselves and in others, to analyze them against the background of their own and foreign cultural orientation system and to effectively design communication processes in professional situations. The module focuses in particular on the following countries and cultures: India, China and Southern and Eastern Europe.	6th Semester	5 ECTS
3WI-MIM-60	Medical Information Management	
The module focuses on the requirements for medical information systems that result from the support of medical action, the principles of medical documentation, interfaces to be considered and the introduction of new telematic technologies.	6th Semester	5 ECTS

Practical Modules		
3WI-PMUGU-10	Practice Company in the Global Environment	
In the first practical phase, the students get to know their practice company as well as elementary procedures and activities. They are familiarized with the communication relations and information systems used in the company. Students are directly involved in practical teams and thus receive essential impulses for the development of new or the consolidation of previously acquired social skills. Moreover, students expand the specialist knowledge gained in the theoretical modules and apply this knowledge in a practical presentation.	1st Semester	6 ECTS
3WI-PMAP-20	Practical Module Application of Work and Problem Solutions	
In this practical module, students become acquainted with basic processes in selected functional areas. They apply or practice working and problem-solving techniques including the corresponding IT. They expand their action, methodological and social skills. In first guided projects, they practice methods of business informatics. They independently write a practice report, which is evaluated in class.	2nd Semester	6 ECTS
3WI-PMEK-30	Practical Module Expansion of Action, Methodical and Social Competence	
In this practical module, students get to know further fundamental processes in selected functional areas and thus expand their action, methodological and social skills. They practice their ability to carry out independent scientific work by writing the second practice report, which is evaluated in class.	3rd Semester	6 ECTS
3WI-PMAV-40	Practical Module Autonomous Work	
In this practical module, students solve operational tasks in an increasingly autonomous way and thus strengthen their independence, improve their skills and their ability to make decisions. Apart from expanding their professional knowledge, students also enhance their ability to think analytically and critically-constructively, to analyze and evaluate specific practical processes as well as the ability to put theoretical knowledge into practice and vice versa. They select and apply problem-solving and project management techniques.	4th Semester	6 ECTS

3WI-PMEA-50	Practical Module Independent Work	
<p>In this practical module, students work independently on operational tasks and consolidate their methodological competence for project management. At trade fairs or in customer negotiations they acquire sales and conflict management skills.</p>	5th Semester	6 ECTS
3WI-BAWI-60	Bachelor Thesis	
<p>With the completion of the bachelor thesis and its defense, students demonstrate their ability to independently solve, critically evaluate and develop a practice-related problem within a given period of time. They apply previously acquired practical and theoretical knowledge as well as scientific methods. Students demonstrate that they are able to present and defend the results in the form of a presentation.</p>	6th Semester	9 ECTS