Study programme
"Business Informatics "
Master of Science Module

Catalogue

Status as of: September 2019

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Module matrix

Modules	Sem.	Art	V	Ü	L	P	ges.	PF	CP
Advanced Data Warehouse/Data Mining	1	PM	2.0	0.0	2.0	0.0	4.0	KMP	6.0
Enterprise Resource Planning Systems	1	PM	2.0	0.0	2.0	0.0	4.0	SMP	6.0
Information technology law	1	PM	2.0	2.0	0.0	0.0	4.0	KMP	6.0
Strategic IT Management	1	PM	2.0	0.0	2.0	0.0	4.0	SMP	6.0
Web Application	1	PM	2.0	0.0	2.0	0.0	4.0	SMP	6.0
E-Business (B2B - Collaborative Business)	2	PM	2.0	0.0	2.0	0.0	4.0	KMP	6.0
Introduction to Business Psychology and Economic Sociology (Business Administration)	2	WPM	2.0	2.0	0.0	0.0	4.0	SMP	6.0
Enterprise Application Integration	2	PM	2.0	0.0	2.0	0.0	4.0	SMP	6.0
Entrepreneurship (Business Administration)	2	WPM	2.0	2.0	0.0	0.0	4.0	KMP	6.0
International Market Research (Business Administration)	2	WPM	2.0	2.0	0.0	0.0	4.0	KMP	6.0
International Economic Policy (Business Administration)	2	WPM	2.0	2.0	0.0	0.0	4.0	SMP	6.0
Project I+II (*)	2	PM	0.0	0.0	0.0	4.0	4.0	SMP	6.0
Simulation	2	PM	2.0	0.0	2.0	0.0	4.0	SMP	6.0
Game Theory and Contract Negotiation (Business Administration)	2	WPM	2.0	2.0	0.0	0.0	4.0	KMP	6.0
E-Business (B2C)	3	PM	2.0	0.0	2.0	0.0	4.0	KMP	6.0
IT security	3	PM	2.0	1.0	0.0	1.0	4.0	KMP	6.0
Machine Learning (Business Informatics)	3	WPM	2.0	2.0	0.0	0.0	4.0	KMP	6.0
Process Mining (Business Informatics)	3	WPM	2.0	0.0	2.0	0.0	4.0	SMP	6.0
Site planning	3	PM	2.0	0.0	2.0	0.0	4.0	SMP	6.0
Statistics with SPSS (Business Informatics)	3	WPM	2.0	2.0	0.0	0.0	4.0	FMP	6.0
Master's thesis	4	PM	0.0	0.0	0.0	0.0	0.0	SMP	30.0
Total semester hours per week			38	17	20	5	80		
Sum of the CP to be achieved from WPM									0
Sum of CP from PM									102

Total CP									102

V - Lecture **PF** - Form of examination **FMP** - Fixed module examination

Ü - Exercise **CP** - Credit Points **SMP** - Course-related module examination

L - Laboratory **PM** - compulsory module **KMP** - Combined Module Examination

P - Project **WPM** - Compulsory elective module

***** Module extends over several semesters

Advanced Data Warehouse/Data Mining

Module: Advanced Data Warehouse/Data Mining		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Computer scientist Jacqueline Markwardt		
Semester: 1	**Semester part-time:** 1	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2019-03-14
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	30.0
Project work:	88.0
Examination:	2.0

Total:	180

Advanced Data Warehouse/Data Mining

Learning objectives	**Share**
Professional skills	
Knowledge/Knowledge - Students have knowledge of the structure and functionalities of a Data Warehouses (DWH). They are familiar with the aspects of mass data management (data pool - Big Data). In addition to the familiar data analysis approaches (OLAP), other analysis approaches are discussed: Data Mining. Students get to know various data mining algorithms and functions and develop the ability to use appropriate approaches for various analysis tasks. In addition to Big Data Data storage in the DWH (data pool) has become more and more popular on the market. Data analysis approach established: Data analysis in real time by processing data streams. Students also learn this approach and corresponding basic knowledge and apply both data analysis methods (data mining / streams processing).	40%
Skills - According to practice-relevant sample data, the students develop data analysis models and experiment with different data mining algorithms. They take on the role of a data analyst and know how to interpret the results or use their skills to optimise and adapt the model. Data mining tools (ODM or similar) can also be used. The handling for this is learned. Streams applications are developed for data analysis from data streams. Streams processing tools from the market are also used for this and the handling is learned.	40%
Personal competences	
Social competence - Documentary work in a team (small group), development of practice-relevant applications	20%
Independence - Apply knowledge, use of data mining tools, independent Finding a solution to the problem, data mining development Application, Streams Applications	

Advanced Data Warehouse/Data Mining

Content:
1. Data Mining - Data Mining Algorithms / Data Mining Functions - Regression, Classification, Detection, Clustering, Association - Advantages and Disadvantages, Selection and Combination 2. Big Data - Data streams - Processing/analysis Big Data - Data warehouse approach - Big Data: Real-time data streams vs. data pool in the data warehouse approach - Combination of both approaches - basics/approaches/development of streams (data streams) Applications
Form of examination:
Digital exam (40%) Documentary work as group work (40%) Homework Individual work (20%)
Compulsory literature:
Literature recommendations will be made in the course room
Recommended literature:

Enterprise Resource Planning Systems

Module: Enterprise Resource Planning Systems	
Study programme: Business Informatics	**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Ralf Szymanski	

Learning objectives	**Share**
Professional skills	
Knowledge/Knowledge - Basics of the SAP R/3 user interface - Creating an independent company in SAP/R3 - Principles of Internal Activity Allocation (IBL)	40%

Semester: 1	**Semester part-time:** 1	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2019-07-16
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	56.0
Project work:	40.0
Examination:	24.0
Total:	180

Enterprise Resource Planning Systems

Skills - Handling the SAP R/3 user interface - Learning practical skills in the area of the standard software SAP R/3 Controlling and Finance Modules - Representations of the Organisational structure of a company for the accounting and control of company processes - Carrying out IBL in SAP/R3 and in a spreadsheet system	40%
Personal competences	
Social competence - Creating the enterprise is done in teams of two students - Small group work, class discussion, time management, Self-organisation, self. Work, ……	20%

Independence - - Document work is carried out with individual specification for the controlled modification of the case study	
Content:	
Management of master data in the SAP system: cost centres, cost centre groups, primary and secondary cost types as well as activity types and activity type groups: Activity outputs, Primary cost input as well as indirect and direct activity input The practical handling of SAP standard software is practised on the basis of case studies.	
Form of examination:	
Written work (100%)	
Compulsory literature:	
Recommended literature:	
will be announced in the course	

Information technology law

Module: Information technology law	
Study programme: Business Informatics	**Graduation:** Master of Science
Responsible for the module: Prof. Dr. jur. Stefan Strassner	

Learning objectives	**Share**
Professional skills	
Knowledge/Knowledge - Students have basic theoretical knowledge in the field of information technology law.	25%

Semester: 1	**Semester part-time:** 3	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-05-29
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	118.0
Project work:	0.0
Examination:	2.0
Total:	180

Information technology law

Skills - Students have experience in dealing with information technology law, decision and contract texts.	25%
Personal competences	

Form of examination:
Written exam (100%)

Social competence - Students will be able to assess contractual conditions and, if necessary, negotiate them in such a way that the typical rights and obligations in the field of information technologies are distributed appropriately and risks are not imposed unilaterally on one party to the contract.	50%
Independence - Students can independently identify important and practice-relevant legal problems and sufficiently assess the risk potential associated with them.	

Content:

1 Specialisation is also progressing in law. In the meantime, there are in Germany have "specialist lawyers" in twenty areas of law who, according to the Specialist Lawyers' Regulations, must have "special theoretical knowledge" in the relevant specialist area. The content of the Information Technology Law courses is oriented towards basic, practice-relevant
Legal issues from the area of special theoretical knowledge provided for by the Specialist Lawyers' Regulations for the special field of "Information Technology Law". Accordingly, the following topics are addressed in a way that is comprehensible to non-lawyers and are partly dealt with in depth: - Contract law of information technologies, including the drafting of individual contracts and
General Terms and Conditions of Business (GTC) - Law of the Electronic business transactions, including the drafting of provider contracts and
Terms of use (Online-Mobile Business) - Basic commercial principles
legal protection and copyright in the field of information technologies with
References to labelling law with focus on "domain law" - Law of the
Data protection and the security of information technologies including
Basic principles of civil liability for damages in the field of information technologies - Basic principles of criminal liability in the field of information technologies

Information technology law

Compulsory literature:

IT and computer law, 10th edition 2012, Beck-Texte im dtv
THW/Digital Library: Beck-Online: IT and Multimedia Law PLUS with commentaries, Handbooks, form books and journals on information technology law

Recommended literature:

Strategic IT Management

Module: Strategic IT Management		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Mathias Walther		
Semester: 1	**Semester part-time:** 3	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2019-03-14
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	120.0
Project work:	0.0
Examination:	0.0
Total:	180

Learning objectives	**Share**
Professional skills	

Knowledge/Knowledge - Students know and understand characteristics and Procedures according to which modern companies conduct business and IT strategies are developed and esential problems of the strategy process and the derived, specific responsibility of IT management to link IT and business strategy.	40%
Skills • Students acquire the skills to identify the strategic potential of modern IT applications, • to evaluate technical and business factors of IT value creation, • to develop an IT strategy for companies (orientation towards business strategy, opportunities, necessary infrastructure), • to demonstrate the business effectiveness of planned IT applications.	40%
Personal competences	
Social competence • Students are able to actively participate in a group and adequately communicate Strategic IT content in class discussion. • They can discuss and solve tasks in a team. They can present their own results to the group and respond appropriately to questions.	20%
Independence • Students are able to set their own learning and working goals and to realise them. • They can compare their own knowledge with the learning objectives set and, if necessary, initiate necessary steps such as seeking learning guidance. • You will undertake independent scientific research, Choice of topic, delimitation of topics and writing of a simple scientific paper in accordance with the rules	

Content:

1. IT applications and strategies (ERP, information systems)
2. IT architecture management
3. IT service management
4. IT project management
5. IT requirements management
6. IT organisation and personnel
7. Information and data management
8. IT controlling
9. IT Governance
10. IT security management
11. IT compliance and IT law

Form of examination:

Written exam (50%)
Written work (50%)

Compulsory literature:

Recommended literature:

Tiemeyer, E. (2006). *Handbuch IT-Management*. Munich [et al.]: Hanser. **Bernhard, M.** (2003). *Case Studies and Practical Implementation [Strategisches ITManagement/2]*.
Brenner, W. (2003). *Strategic IT Management*. Heidelberg: dpunkt.-Verl..
Hanschke, I. (2013). *Strategic management of the IT landscape*. Munich: Hanser.
Heilmann, H. (2001). *Strategic IT controlling*. Heidelberg: dpunkt.-Verl..
Hinterhuber, H. (2004). *Strategisches Denken [Strategic Entrepreneurship/1]*. **Hofmann (ed.), J. & Knoll (ed.), M. (**2012). *Strategisches IT-Management: HMD Praxis der Wirtschaftsinformatik (Heft 284)*. dpunkt.verlag GmbH.
Müller-Stewens, G. & Lechner, C. (2005). *Strategic management*. Stuttgart: SchäfferPoeschel.
Zarnekow, R. (2007). *Production Management of IT Services*. Berlin [u.a.]: Springer.

Web Application

Module: Web Application		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr.-Ing. Michael Hendrix		
Semester: 1	**Semester part-time:** 1	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-05-29
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	118.0
Project work:	0.0
Examination:	2.0
Total:	180

Web Application

Learning objectives	**Share**

E-Business (B2B - Collaborative Business)

Professional skills	
Knowledge/Knowledge - Students know and understand the requirements for a portable concept for web applications and corresponding programming techniques to develop web applications. Furthermore, you will know and understand different security risks in web applications and ways to counter these risks.	40%
Skills - Students are able to design and develop more complex web applications (preferably in Java), taking into account usability, functionality and security requirements.	40%
Personal competences	
Social competence - Students are able to present a challenging scientific topic in a comprehensible way....	20%
Independence - Students are able to work independently on a topic and present this topic in the seminar	
Content:	
1. design, development and testing of web applications with particular attention to usability, maintainability, scalability and security.	
Form of examination:	
Seminar presentation and final exam (100%)	
Compulsory literature:	
1. Java Server Faces 2.0, The Complete Reference; Ed Burns, Chris Schalk, Mc Graw Hill 2. The Java EE 7 Tutorial http://docs.oracle.com/javaee/7/tutorial/doc/home.htm	
Recommended literature:	

Module: E-Business (B2B - Collaborative Business)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. nat. Ulrike Tippe & Dr.-Ing. Rüdiger Striemer		
Semester: 2	**Semester part-time:** 4	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-06-19
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	60.0
Project work:	58.0
Examination:	2.0
Total:	180

E-Business (B2B - Collaborative Business)

Learning objectives	Share
Professional skills	
Knowledge/Knowledge • The students know the aspects, main terms, standards and technologies of the cooperation of different actors within the entire value chain. • They know the digital business models, the typical market activities, the distribution, contract and delivery model of a B2B service provider for e-business as well as typical challenges and problems.	40%
Skills • Students are able to identify and evaluate framework conditions for successful inter-company cooperation and to derive a strategy from this. • They are able to derive a suitable bidding strategy and a suitable contract and remuneration model on the basis of a concrete case study of a B2B IT service provider.	30%
Personal competences	
Social competence - The students are able to explore given topics or questions in small groups during the attendance times and to present the results together.	30%
Independence • They are empowered to take part in discussions during the Attendance times, critically evaluate current articles on the context of the course, address counter-arguments and find a consensus. • The students are able to scientifically process a given current problem from the narrower context of the course.	

Content:

1. E-procurement
2. E-Shop
3. E-Marketplace
4. E-Collaboration & Supply Chain Management
5. E-Marketing
6. E-Community
7. Digital transformation
8. Sales, contract and delivery model of a B2B service provider

Form of examination:

Presentation (40%) Oral examination (60%)

Additional regulations:
Combined Module Examination (KMP)

Compulsory literature:

Recommended literature:

Kollmann, T. & Schmidt, H. (2016). *Germany 4.0: How the Digital Transformation succeeds*. Springer Gabler.
Meier, A. & Stormer, H. (2012). eBusiness *& eCommerce: Managing the digital value chain.* Springer-Verlag.
Wirtz, B. (2010). *Electronic Business*. Gabler Verlag.
Leake, W. & Vaccarello, L. & Ginty, M. (2012). *Complete B2B Online Marketing*. John Wiley & Sons.
Brooks, M. & Lovett, J. & Creek, S. (2013). *Developing B2B Social Communities: Keys to Growth, Innovation, and Customer Loyalty*. Apress.
Abts, D. & Mülder, W. (2009). *Master course in business informatics: Compact, practical, comprehensible - 12 learning and working modules*. Springer-Verlag.

Enterprise Application Integration

Module:
Enterprise Application Integration

E-Business (B2B - Collaborative Business)

Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr.-Ing. Michael Hendrix		
Semester: 2	**Semester part-time:** 2	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-05-29
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	118.0
Project work:	0.0
Examination:	2.0
Total:	180

Enterprise Application Integration

Learning objectives	Share
Professional skills	
Knowledge/Knowledge - Students know and understand the different approaches to unifying heterogeneous IT systems and their advantages and disadvantages. Furthermore, the students know and understand Students learn about the properties of web services and the Interaction of the different components of a web service.	40%
Skills - Students are able to create concepts for unifying heterogeneous IT systems and, in particular, to develop a concrete solution within the framework of a service-oriented architecture (preferably in Java).	40%
Personal competences	
Social competence - Students are able to present a challenging scientific topic in a comprehensible way....	20%
Independence - Students are able to work independently on a topic and present this topic in the seminar.	
Content:	
1. 1. integration levels 2. data integration 3. service-oriented architecture (SOA) 4. Web services (SOAP + REST) 5. implementation of web services	
Form of examination:	
Seminar presentation and final exam (100%)	
Compulsory literature:	
1. SOA Using Java Web Services Mark D. Hansen Prentice Hall 2. Service-Oriented Architectures with Web Services Ingo Melzer et al. Spektrum Akademischer Verlag 3. Enterprise Application Integration S. Conrad, W. Hasselbring, A. Koschel, R.Tritsch Spek	

Recommended literature:

Project I+II

Module: Project I+II		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Christian Müller		
Semester: 2	**Semester part-time:** 2	**Duration:** 2
SWS: 4.0	**of which V/Ü/L/P:** 0.0/0.0/0.0/4.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-05-26
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations: The projects are advertised in the pre-semester and chosen by the students. Thus, the projects have changing contents.		

Breakdown of the workload	Hours:
Presence:	60.0
Preparation and follow-up:	0.0
Project work:	120.0
Examination:	0.0
Total:	180

Learning objectives	Share
Professional skills	
Knowledge/Knowledge - See content - will only be determined and communicated in the current semester planning.	30%

Project I+II

Skills - See content - will only be determined and communicated in the current semester planning.	50%
Personal competences	
Social competence	20%
Independence	
Content:	
1. the content depends on the specific event	
Form of examination:	
Project work (100%)	
Compulsory literature:	
The literature depends on the specific event	
Recommended literature:	

Simulation

Module: Simulation	
Study programme: Business Informatics	**Graduation:** Master of Science

Responsible for the module: Prof. Dr. rer. pol. Christian Müller		
Semester: 2	**Semester part-time:** 2	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-05-26
Compulsory Prerequisites: Mathematics, Statistics, Operations Research		
Recommended prerequisites: Business processes		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	30.0
Project work:	85.0
Examination:	5.0
Total:	180

Simulation

Learning objectives	**Share**
Professional skills	

Knowledge/Knowledge • Acquisition of general theoretical knowledge about the structure of simulation models. Classification in the systematics of Operations Research. • Acquire broad integrated knowledge on the architecture of the simulation tool Arena...	30%
Skills - Acquisition of a very broad spectrum of methods for using the simulation tool Arena through exemplary exercise tasks. Critically questioning the simulation results.	50%
Personal competences	
Social competence - Promoting teamwork and communication skills, as the documents are created in a team.	20%
Independence - Promotion of independence and learning competence, as students have to acquire detailed knowledge independently.	
Content:	
1. Structure of simulation models 2. Simulation with the software tool Arena - Logical Model - Modelling of Input-Distributions - Statistical analysis of the simulation results - Animation of the simulation process 3. Case study analysis and implementation	
Form of examination:	
Project work (100%)	

Simulation

Compulsory literature:

Banks, J; Handbook of Simulation; John Wiley & Sons 1998
Banks et al.; Discrete- Event System Simulation; Pearson Education 2005
Biethahn et al; Simulation as an operational decision support ; Physika 1999
Balci, O;Principles and Techniques of S imulation Validation, Verification and Testing; Proceedings of the 1995 Winter Simulation Conference; C. Alexopoulos et al. (eds), pp 3439
Kelton et al.; Simulation with Arena ; McGraw -Hill 2002
Kramer, Neculau; Simulation Technology; Carl Hanser Verlag 1998
Law, Kelton; Simulation Modelling and Analysis; McGraw -Hill 2000
Liebl; Simulation; Oldenbourg- Verlag 1995
Shannon; System Simulation; Prentice- Hall 1975
Steinhausen; Simulation techniques; Oldenbourg - Verlag 1994 Lecture material

Recommended literature:

Introduction to Business Psychology and Business Sociology (BWL)

Module: Introduction to Business Psychology and Business Sociology (BWL)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Frank Sistenich		
Semester: 2	**Semester part-time:** 4	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Elective	**Language:** German	**Status as of:** 2017-06-14
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	0.0
Project work:	0.0
Examination:	0.0
Total:	60

Learning objectives	**Share**
Professional skills	

Knowledge/Knowledge • Students know and understand the basic structures and processes of experience and behaviour as a subject of psychology and their relevance to business life. • They know and understand the foundations and structures of sociological contemporary analysis and their significance for economic life.	0%
Skills • They acquire the skills to analyse perception and reaction patterns of market actors in their characteristics and to control them within the framework of a holistic and goal-oriented economic process. • They acquire the skills of structuring patterns or processes of the (post)modern society in their consequences for successful economic action within the framework of strategic perspectives or operational instruments.	0%
Personal competences	
Social competence • Students are able to actively participate in a learning group and cooperatively shape results. • They can communicate the module contents in appropriate technical language. • They can argue statements and solutions to the teaching area in the working group.	0%
Independence • Students can set their own learning objectives. • They can plan and continuously implement their learning process. • They can reflect on their own level of knowledge and compare it with the learning objectives set and actively initiate any necessary learning steps. • You will learn to solve problems independently using case studies.	

Content:

Introduction to Business Psychology and Business Sociology (BWL)

1. General psychological, personality psychological and social psychological perspectives
2. Principles of advertising psychology and the psychology of pricing
3. Psychology of macroeconomic processes (market psychology), industrial and organisational psychology
4. Concepts and fields of application of media psychology (text, music, news and film reception)
5. Methods of Sociological Contemporary Analysis
6. Theoretical approaches of risk society, experience society, communication society, simulation society, citizen society and multi-option society and their relation to economic life.

Form of examination:

Written exam, presentation with written paper, seminar paper (100%)

Compulsory literature:

Recommended literature:

Felser, G. (2001). *Advertising and consumer psychology*. Stuttgart: Schäffer-Poeschel [u.a.].
Fischer, L. & Wiswede, G. (2002). *Fundamentals of social psychology*. München [u.a.]: Oldenbourg.
Mangold, R. & Vorderer, P. & Bente, G. (2004). *Textbook of Media Psychology*. Göttingen: Hogrefe Verlag.
Raab, G. & Unger, F. (2005). *Market psychology*. Wiesbaden: Gabler.
Schimank, U. & Volkmann, U. (2000). *Sociological Diagnoses of the Present Part I and II*. Munich: VS Verlag.
Wiswede, G. (2007). *Introduction to Business Psychology*. München [u.a.]: Reinhardt.

Entrepreneurship (Business Administration)

Module: Entrepreneurship (Business Administration)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Dana Mietzner		
Semester: 2	**Semester part-time:** 4	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Elective	**Language:** German	**Status as of:** 2019-03-14
Recommended prerequisites: Basic knowledge of innovation and technology management, general basic knowledge of business administration		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	30.0
Project work:	60.0
Examination:	30.0
Total:	180

Learning objectives	**Share**

Entrepreneurship (Business Administration)

Professional skills	
Knowledge/Knowledge - The students know the importance of entrepreneurship for economic development, the start-up process, concepts of entrepreneurship (e.g. lean start-up, business model generation), the different forms of entrepreneurship in practice (e.g. business start-up, corporate entrepreneurship, social entrepreneurship). The students can develop and systematise business models and classify the motivation of the entrepreneur to become active as an entrepreneur. The students are prepared for dealing with risks in entrepreneurship and know approaches for dealing with risks. The students know relevant methods and tools of entrepreneurship, learn to apply them and to evaluate their benefits.	35%
Skills - The students apply methods of entrepreneurship. By developing their own proposed solutions, skills are acquired with regard to setting up companies and designing suitable growth strategies. The students work on concrete start-up projects and/or case studies.	35%
Personal competences	
Social competence - The students learn to express their opinions and views and to argue for them. The students learn to prepare complex issues for different target groups, e.g. in the context of a pitch, and to develop suitable communication strategies. Another focus is learning and applying action strategies for decision-making in entrepreneurial situations that are associated with a high degree of uncertainty.	30%
Independence - The work on case studies and/or start-up projects should provide a Strengthen the self-reflection of the individual students. The aim here is for them to identify their strengths and weaknesses and to use and develop their resources and competences in a targeted manner. The students are able to research, analyse and abstract independently.	

Content:

1. Importance of entrepreneurship for economic development
2. Development of entrepreneurship, central concepts, basic models
3. Identifying business opportunities
4. Methods in entrepreneurship (e.g. lean start-up, business plan, business model generation)
5. Success factors in entrepreneurship
6. Entrepreneurial Teams
7. Corporate Entrepreneurship
8. Growth strategies

Form of examination:

Written exam (50%)
Written work (50%)

Compulsory literature:

Lecture notes

Recommended literature:

Barringer, Bruce (2012). Entrepreneurship: Successfully Launching New Ventures.
Gassmann, O., Frankenberger, K., & Csik, M. (2013). Developing business models: 55 innovative concepts with the St. Gallen business model navigator. Carl Hanser Verlag GmbH Co KG.
Osterwalder, A., & Pigneur, Y. (2011). Business Model Generation: A handbook for visionaries, game changers and challengers. Campus Verlag.
Ries, Eric (2011). The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Crown Business.

International Market Research (Business Administration)

Module: International Market Research (Business Administration)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Sandra Haas		
Semester: 2	**Semester part-time:** 4	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Elective	**Language:** German, English	**Status as of:** 2019-03-12
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	90.0
Project work:	0.0
Examination:	0.0
Total:	150

Learning objectives	**Share**
Professional skills	

International Market Research (Business Administration)

Knowledge/Knowledge • Students know and understand the necessity of systematic market search and market development through market research, • the essentials of questionnaire development, data analysis and data presentation, • Basics of qualitative and quantitative market research.	40%
Skills • You will acquire the skills to delineate markets on an international level and to develop international market definitions, • create an international study design and conduct international studies independently, • to lead and develop international market research projects in management positions.	40%
Personal competences	
Social competence • Students are able to legitimise tasks, processes and results in a team. • They are able to present facts comprehensively, to actively represent solutions and to react adequately to questions.	20%
Independence - The students are able to set learning and working goals and to realise them independently. They can compare their own knowledge with the learning objectives set and initiate necessary steps if necessary. Contents can be researched independently, specialised knowledge can be acquired from various sources.	

Content:

International Market Research (Business Administration)

1. Introduction
   - 1.1. Special features of international market research
   - 1.2. Requirements for international market research
   - 1.3. Main areas of international market research
   - 1.4. Organisation of international market research
2. International secondary market research
   - 2.1. Delineation of relevant country markets
   - 2.2. Comparability of international data sources
   - 2.3. Definition of international data standards
   - 2.4. International off-the-shelf studies
3. International primary market research
   - 3.1. International face-to-face surveys
   - 3.2. International telephone surveys
   - 3.3. International Internet/Email Surveys
   - 3.4. International panel market research
4. International competitive analysis
   - 4.1. International Competitive Monitoring
   - 4.2. International SWOT, portfolio and pipeline analyses
   - 4.3. International data sources of competitive analysis
   - 4.4. Defence against international competitive intelligence
5. International Institute Market Research
   - 5.1. The largest international market research companies
   - 5.2. Briefing and contract drafting with international market research companies
   - 5.3. Costs of international institute market research
   - 5.4. Advantages and disadvantages of international institute market research
6. Equivalence of international market research
   - 6.1. Equivalence of the contents of the study
   - 6.2. Equivalence of the research methods
   - 6.3. Equivalence of the study situation

6.4 Equivalence of study data preparation

7. Organisation of international market research
   - 7.1. Decision-making competences and execution tasks
   - 7.2. Centralised international market research
   - 7.3. Decentralised international market research
   - 7.4. Coordinated international market research
8. Special features of international market research
   - 8.1. Process of international market research
   - 8.2. International Business Conditions and Liability for Market Research Results
   - 8.3. Possible applications and limitations of international market research studies
   - 8.4. Future Trends in International Market Research

Form of examination:

Written work (100%)

Compulsory literature:

Recommended literature:

Hague, P. & Hague, N. & Morgan, C. (2004). *Market Research in Practice*. Boston.
Keegan, W. & Green, M. (2011). *Global marketing*. Boston [et al.]: Pearson.
Malhotra, N. & Birks, D. (2003). *Marketing Research: Tools and Techniques 3rd edition*. Harlow.
Peter, J. & Donnelly, J. (2008). *A preface to marketing management*. Boston [u.a.]: McGraw-Hill.

International Economic Policy (Business Administration)

Module: International Economic Policy (Business Administration)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr Christian Hederer		
Semester: 2	**Semester part-time:** 4	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Elective	**Language:** German	**Status as of:** 2017-06-14
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	0.0
Project work:	0.0
Examination:	0.0
Total:	60

Learning objectives	**Share**
Professional skills	

International Economic Policy (Business Administration)

Knowledge/Knowledge • Students know and understand the international networking of modern economies, • Germany's economic policy in an international context, • importance of important international agreements and organisations, - integration and development policy as well as integration policy strategies.	0%
Skills • They acquire the skills to make international decisions and Development trends for entrepreneurial decisions on the area of trade and financing, • to shed light on operational processes from an international perspective, • assess national competitiveness on the basis of location factors.	0%
Personal competences	
Social competence - The students are able to work in teams to develop various To shed light on perspectives of a problem and to propose solutions. A mobility mindset should be awakened in the students.	0%
Independence - Students are able to independently obtain, record, analyse and critically evaluate data.	

Content:

International Economic Policy (Business Administration)

1. System and problem areas of foreign economic policy
2. Basic questions of the policy areas
3. World economic order (world trade, world currency and world transfer order)
4. International institutions and supranational organisations
5. Instruments of foreign trade policy
6. International capital flows
7. Selected aspects of international economic cooperation and the EU
8. Competition policy and globalisation
9. Germany's international competitiveness (selected indicators)
10. Instruments and goals of development policy

Form of examination:

Compulsory literature:

Recommended literature:

Borchert, M. (2001). *Foreign trade studies*. Wiesbaden: Gabler.
Current literature

Game Theory and Contract Negotiation (Business Administration)

Module: Game Theory and Contract Negotiation (Business Administration)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. nat. Rainer Stollhoff & Prof. Dr. iur. Carsten Kunkel		
Semester: 2	**Semester part-time:** 4	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Elective	**Language:** German	**Status as of:** 2019-02-18
Recommended prerequisites: Basic knowledge of business administration, private law and mathematics		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	117.0
Project work:	0.0
Examination:	3.0
Total:	180

Learning objectives	**Share**
Professional skills	

Game Theory and Contract Negotiation (Business Administration)

Knowledge/Knowledge - Students know and understand - How to prepare and conduct a contract negotiation, especially basic negotiation types, scope and positions as well as techniques and strategies - the basic concepts of classical game theory as well as behavioural economics - the concept of "Homo Oeconomicus" and its limits - the influence of rationality, Intuition and societal expectations on decision making	40%
Skills - You will acquire the skills - to structure and independently conduct a contract negotiation, in particular basic apply negotiation techniques, - apply business management consider decision-making situations from a game-theoretical point of view and systematically take psychological and social factors into account - critically question the assumption of rationality and self-interest in economic theory	40%
Personal competences	
Social competence - The students are able to work in teams to develop various to shed light on the perspectives of a problem and to propose solutions.	20%
Independence - Students are able to research and analyse independently	

Content:

Game Theory and Contract Negotiation (Business Administration)

1. Contract Negotiation - Basics of Contract Drafting - Possibility and Necessity of a negotiation situation - External framework of Contract Negotiations - Basic Negotiation Types - Negotiation Scope - Negotiation Positions - Negotiation Techniques - Negotiation Strategies
2. Basics of game theory: - Formal representation of a game - Pure strategies, mixed strategies - Solution of a game, equilibria - Utility function, homo Oeconomicus - limits of classical game theory: incomplete information, bounded rationality, altruism
3. Influence of psychological and social factors / basics of behavioural economics - Prospect Theory: relative utility, loss aversion, Biased Probabilities - Heuristics: Availability, Representativeness and Affect - Cognitive Bias: Discounting, confirmation, status quo - Nudging: Framing, preselection

Form of examination:

Oral examination (100%)

Compulsory literature:

Kunkel, Stollhoff, Contract Negotiation and Game Theory, epubli, latest ed.

Recommended literature:

Kunkel, Contract Drafting, Springer, 2016
Bamberg / Coenenberg / Krapp, Betriebswirtschaftliche Entscheidungslehre, 15th, revised edition, Vahlen, 2012
Wessler, Decision Theory, Springer Gabler, 2012
Holler, Illing, Introduction to Game Theory, Springer - Verlag, 2006
Berninghaus, Erhart, Güth, Strategische Spiele, Springer - Verlag, 2010
Pfähler, Wiese, Unternehmensstrategien im Wettbewerb, Springer - Verlag, 2008
Rothe et al, Introduction to Computationa l Social Choice, Spektrum - Verlag, 2012

E-Business (B2C)

Module: E-Business (B2C)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. nat. Ulrike Tippe & Dr.-Ing. Rüdiger Striemer		
Semester: 3	**Semester part-time:** 5	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-06-19
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	60.0
Project work:	58.0
Examination:	2.0
Total:	180

E-Business (B2C)

Learning objectives	**Share**

Professional skills	
Knowledge/Knowledge • Students are familiar with the diverse digital relationships between companies and end consumers. • They know about the possibilities of influencing the end consumers on companies through digital media.	40%
Skills • The students are able to distinguish the essential digital concepts in the B2C area from those of the B2B area. • They can analyse and critically evaluate the current B2C concepts.	40%
Personal competences	
Social competence - They are able to evaluate the processes and effects occurring in the relevant subject area also on the basis of higher-level aspects, such as ethical and moral aspects.	20%
Independence - Students are able to work independently on a current issue from the field of digital business in the B2C sector using scientific methods and to critically reflect on the insights gained.	
Content:	
1. Demarcation of the two areas B2B and B2C 2. Online marketing in the B2B sector, affiliate programmes 3. Online services (insurance, banking, etc.) 4. Current challenges due to the digital transformation in the B2C sector	

E-Business (B2C)

Form of examination:

Written work (50%) Presentation (50%) Additional regulations: Combined module examination
Compulsory literature:
Recommended literature:
http://www.digitale-ethik.de/forschung/publikationen/medienethik-schriftenreihe/ (website) The Electronic Journal of Information Systems Evaluation: http://www.ejise.com/search/index.html?name=keywords&value=B2C%20e-commerce Hilker**, C. (**2017). *Content Marketing in Practice: A Guide - Strategy, Concepts and Practical Examples for B2B and B2C Companies*. Springer Gabler. **Ansari, S.** (2017). *Content marketing. The practice manual for companies: Develop strategy, plan content, reach target audience (mitp Business)*. mitp.

IT security

Module: IT security		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr Bernhard Eylert		
Semester: 3	**Semester part-time:** 5	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/1.0/0.0/1.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2017-05-29
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	100.0
Project work:	10.0
Examination:	10.0
Total:	180

Learning objectives	**Share**
Professional skills	

Knowledge/Knowledge - Students are taught basic knowledge of security in communication networks and systems in a compact form. They learn the mathematical basics of cryptology including various encryption methods. They learn mechanical and electronic network access security procedures, Encryption software and internet services, various Know security aspects and attack techniques, especially pests and malicious applications and their defences, and apply adequate defence tactics.	50%
Skills - Students are able to set up security concepts for different requirements. They understand the security architectures in fixed and mobile telecommunications networks and can evaluate them. The mathematical basics of cryptology are consolidated in exercises and the various encryption methods are tried out by the students themselves.	30%
Personal competences	
Social competence - Students will be able to recognise the economic and social explosive power of underestimating and misestimating security in information technology and to deal with leadership and team competence to take targeted action against this using the necessary professional and organisational measures.	20%
Independence - With the crypto procedures and applications given to them, the students are able to competently recognise complicated and complex IT security problems and initiate the necessary (counter)measures, also later in their professional lives.	

Content:

Cryptological basics (e.g. algebraic and number-theoretical basics, Euclidean algorithm, theorems of Euler and Fermat, elliptic curves) Basic encryption methods (e.g. (a-)symmetrical methods, block and stream ciphers, hash methods) Threat analysis, technical and organisational measures for organisations Security concepts for private and business users as well as for companies, including protection against plagiarism and production security.
Protective measures) Internet software (e.g. browser) and protocols (e.g. UDP, TCP, http/s), intrusion protection Viruses, worms, Trojans and other malware Firewall (components, configuration, architecture) Internet and online services (e.g. emails, e-Commerce & e-banking) Attack scenarios on the Internet (surfing, downloads, applications, traces in the network) Data storage on third-party servers (e.g. in a Cloud) Security of internet telephony (e.g. VoIP, Skype etc.) Security in
Mobile networks, for smart cards and other additional devices, Trusted App Management Security for video & TV systems (e.g. video conferencing, pay TV, HbbTV etc.) Security aspects of personal documents (e.g. passport, ID card,
Credit card, health card, etc.) Security in multimedia in and automatic guidance of (motor) vehicles Economic crime and forensics Attacks on social networks New spying tools (e.g. Google glass) Multidimensional
Coding methods (e.g. bar code, QR code, colour codes, etc.)

Form of examination:

Document, assessed exercises, oral examination (100%)

Compulsory literature:

Eylert Bernd (Editor), Blömer Johannes, Eylert Dorothee, Giessmann Ernst G, Holtz Juliane, Mohnke Janett, Sicherheit in der Informationstechnik, Verlag News & Media, Berlin 2012, ISBN 978-3-936527-33-9 Schneier Bruce, Applied Cryptography, Addison-W

Recommended literature:

Site planning

Module: Site planning		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Ralf Szymanski		
Semester: 3	**Semester part-time:** 5	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Type of course: Mandatory	**Language:** German	**Status as of:** 2019-07-16
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	51.0
Project work:	45.0
Examination:	24.0
Total:	180

Learning objectives	**Share**
Professional skills	

Knowledge/Knowledge - Apply location planning models Make practical use of optimisation systems for location planning	20%

Site planning

Skills - The course aims to provide a deeper understanding of the quantitative Planning and evaluation of one or more company locations under application-oriented conditions. The quantitative methods of intra-company site selection are dealt with	50%
Personal competences	
Social competence - Creating the enterprise is done in teams of up to four people. Students - small group work, class discussion, Time management, self-organisation, self. Work, ……	30%
Independence - - Documentary work is carried out with individual specification for independent business decision-making	
Content:	
1. location planning as a strategic task Location planning in networks Problem types: median, warehouse, location, centres, hub-location, location routing, quadratic Formulate allocation problems location models computer-assisted Carry out site planning Heuristics for site planning	
Form of examination:	
Written work (100%)	
Compulsory literature:	
Recommended literature:	
will be announced in the course	

Machine Learning (Business Informatics)

Module: Machine Learning (Business Informatics)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. nat. Rainer Stollhoff		
Semester: 3	**Semester part-time:** 7	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Elective	**Language:** German, English	**Status as of:** 2019-07-09
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	20.0
Project work:	80.0
Examination:	1.0
Total:	161

Machine Learning (Business Informatics)

Learning objectives	**Share**
Professional skills	

Knowledge/Knowledge • The students know the mathematical basics of machine learning and can explain them. • They know and understand the different problems of learning tasks and can identify suitable algorithms for concrete problems.	30%
Skills - You will acquire the skills to solve learning tasks with concrete data sets. To do this, you will be able to read in and process data sets with the software R, apply common machine learning algorithms as Integrate programme libraries and use them to solve problems.	40%
Personal competences	
Social competence - The students are able to work in teams to develop various to shed light on the perspectives of a problem and to propose solutions.	30%
Independence - Students are able to research and analyse independently	
Content:	
1. Mathematical foundations of machine learning: input and output variables model predictions, model errors 2. Data analysis with R/Python Basic operation Data input and output, graphics Using programme libraries 3. Problems and solutions in machine learning Supervised learning: regression, classification Unsupervised learning: dimension reduction, clustering Reinforcement learning Deep learning 4. Common machine learning algorithms Clustering methods Linear and non-linear regression Decision trees Ensemble methods Support vector machines Neural networks	

Machine Learning (Business Informatics)

Form of examination:

The concrete examination modalities can be found in the examination scheme, which will be provided by the lecturer within the first two weeks of the lecture. (100%)
Compulsory literature:
Recommended literature:
James, G., Witten, D., Hastie, T., An introduction to statistical lea rning : with applications in R, Springer, 2015 Hastie, T. , Tibshirani, R., Friedman , J., The Elements of Statistical Learning, Springer , 2001 **Mueller, J. & Massaron, L. ([**2017]¡© 2017). *Machine learning with Python and R for dummies*. Weinheim: Wiley-VCH Verlag GmbH & Co. KGaA. Alpaydin, Machine Learning, Old enbourg, 2008 Kohl, Introduction to Statistical Data Analysis with R, bookboon.com

Process Mining (Business Informatics)

Modules: Process Mining (Business Informatics)		
Degree programme: Business Informatics		**Degree:** Master of Science
Responsible for the module: Prof. Dr. rer. nat. Alexander Lübbe		
Semester: 3	**Semester part time:** 7	**Duration:** 1
Hours per week per semester: 4.0	**Of which L/S/LW/P:** 2.0/0.0/2.0/0.0	**CP according to ECTS:** 6.0
Form of course: Elective	**Language:** English	**As of:** 2019-03-18
Recommended prior knowledge: Business Process Management		
Recognition of external relevant qualification/experience:		
Special regulations:		

Workload distribution	**Hours:**
In class:	60.0
Pre- and post-course work:	30.0
Project:	88.0
Examinations:	2.0
Total:	180

Learning objectives	**Share**

Process Mining (Business Informatics)

Subject specific competences	
Knowledge • Students get to know Process Mining as a form of process analysis on company data. They will learn about the possibilities offered by process mining and the use cases companies are currently addressing. The theory is taught based on the the underlying algorithms. The practice is taught on with industry-relevant software tools and concrete project procedures. • The students learn about process mining as a form of process analysis on company data. They learn about the possibilities offered by process mining and which applications companies are currently addressing with it. The basics are taught on the basis of the underlying algorithms. The practice is taught on the basis of current industry-relevant software tools and concrete project procedures.	30%
Skills • Students can identify and evaluate the environment for Process Mining. Students can identify and define relevant questions and answer them with the process mining tools. • Students will be able to understand the requirements for the use of Process Identify and evaluate mining. Students can identify relevant Identify, formulate and address issues using current process mining tools.	30%
Personal competences	
Social competence • Students work on the process mining problems in teams based on - relevant datasets from industry including the discussion of expressiveness and validity. • Students work on the questions in teams. Questions are worked out on practice-relevant data sets, including reflection on the significance of data sets.	40%
Autonomy • Students work on the process mining problems also on their own. • Independent editing of data sets	

Content:

1. Basics on Process Mining
2. Process Discovery (generate process models from data)
3. Conformance Checking (compare modelled target processes with reality)
4. Model Enhancement (enriching process models with data)
5. Operational Support (Support the process execution)
6. Working with Data Sets (Working with Data Sets)

Examination format:

Written exam (40%)
Documentary work(s) (60%)

Compulsory reading:

Recommended reading:

- Wil van der Aalst: Process Mining: Discovery, Conformance, and Enhancement of BusinessProcesses, Springer 2011
- Alexander Lübbe et al.: BPM Toolmarktmonitor 2017 - Process Mininghttp://www.processmining.org/

Statistics with SPSS (Business Informatics)

Module: Statistics with SPSS (Business Informatics)		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Dr. rer. nat. Gabriela Birgit Witte		
Semester: 3	**Semester part-time:** 7	**Duration:** 1
SWS: 4.0	**of which V/Ü/L/P:** 2.0/2.0/0.0/0.0	**CP according to ECTS:** 6.0
Type of course: Elective	**Language:** German	**Status as of:** 2019-08-20
Recommended prerequisites: Basic knowledge of descriptive statistics		
Flat-rate crediting of:		
Special regulations:		

Breakdown of the workload	**Hours:**
Presence:	60.0
Preparation and follow-up:	118.0
Project work:	0.0
Examination:	2.0
Total:	180

Learning objectives	**Share**
Professional skills	

Knowledge/Knowledge - In economics, statistical methods are an indispensable tool for the scientific analysis and evaluation of practice-oriented processes. Methods of descriptive and inductive statistics and their implementation with SPSS are developed. The students know the common methods of descriptive statistics. You can define a wide range of parameters in your The objectives should be differentiated and the associated state calculation formulas. They can explain the difference between univariate and multivariate questions and understand the principles of correlation and regression analysis. They know how to draw conclusions about a population from sample data and understand the necessary basics from probability theory.	40%
Skills - The students are able to critically read and scrutinise statistics produced by others, they can confidently handle large amounts of data, present them appropriately and meaningfully and select, calculate and interpret suitable parameters in a targeted and well-founded manner. They have in-depth practical and theoretical knowledge of the correlation and regression analysis and can apply them. Furthermore, the students can apply basic process probabilistic questions and classify random variables and their distributions. They are able to Apply knowledge from probability theory to statistical Apply investigations, estimate parameters and test hypotheses.	40%
Personal competences	
Social competence - The students can actively and constructively contribute to the classroom discussion. They can organise themselves independently and discuss, structure and solve complex tasks in limited time. They can represent their own results and justify solutions.	20%
Independence - The students can set and realise learning goals independently. They can research learning content independently and acquire specialised knowledge from different sources.	

Content:

1. Introduction and basic concepts of descriptive statistics: typical questions, distinction between descriptive/inductive statistics, population, samples, role of probability calculation
2. Introduction to SPSS for Windows: editors, viewers, menu navigation, help system
3. Univariate statistics: characteristics and characteristic carriers, classification of characteristics, tables, diagrams, key figures
4. Correlation analysis: cross-tabulations, correlation measures for nominal, ordinal and metrically scaled characteristics
5. Regression calculation: linear and non-linear regression, coefficient of determination
6. Probability theory: Random events, probabilities, Combinatorics, conditional probabilities, stochastic independence, tree diagrams
7. Random variables: Discrete and continuous distributions, distribution parameters
8. Introduction to inductive statistics: estimating an unknown quantity, testing a hypothesis

Form of examination:

Written exam

Additional regulations:
with computer-based and theoretical part

Compulsory literature:

Recommended literature:

K. Backhaus, B. Erichson, W. Plinke, R. Weiber (2015); Multivariate Analysis Methods: An Application-Oriented Introduction; Springer Gabler
G. Bamberg, F. Baur, M. Krapp (2009); Statistics; Munich: Oldenbourg
J. Bleymüller, G. Gehlert, H. Gülicher (2004); Statistics for economists; Munich: Vahlen
F. Brosius (2013); SPSS 21; MITP Verlag
P. Eckstein (2012); Applied Statistics with SPSS: Practical Introduction for Economists; Gabler Verlag

Master's thesis

Module: Master's thesis		
Study programme: Business Informatics		**Graduation:** Master of Science
Responsible for the module: Prof. Dr. rer. pol. Christian Müller		
Semester: 4	**Semester part-time:** 6	**Duration:** 1
SWS: 0.0	**of which V/Ü/L/P:** 0.0/0.0/0.0/0.0	**CP according to ECTS:** 30.0
Type of course: Mandatory	**Language:** German, English	**Status as of:** 2017-05-26
Recommended prerequisites:		
Flat-rate crediting of:		
Special regulations: 4 months processing time		

Breakdown of the workload	**Hours:**
Presence:	0.0
Preparation and follow-up:	900.0
Project work:	0.0
Examination:	0.0
Total:	900

Learning objectives	**Share**
Professional skills	
Knowledge/Knowledge - Results from the subject matter of the work	100%

Skills	0%

Master's thesis

Personal competences	
Social competence	0%
Independence	
Content:	
1. results from the subject matter of the work	
Form of examination:	
Thesis (100%)	
Compulsory literature:	
Results from the subject matter of the work	
Recommended literature:	