

Module Handbook

for Master degree program "Information Systems" of the University of Münster

valid from Wintersemester 2018/19



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Information Management: Managing the Information Age Organization

Mod	dule Title english:	Information Management: Managing the Information Age Organization				
Cou	rse Program:	Master Information Systems				
1	Module No: IM1	State: Elective	Language of Instruction: English			
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Module Structure:

No Type		ype Course Stat		Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Managing the Information Age Organization	Compulsory	30 h (2 CH)	90
2	Exercise	Tutorial on Managing the Information Age Organization	Compulsory	30 h (2 CH)	30

Module Profile:

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Purpose of the module/integration into curriculum:

The lecture Managing the Information Age Organization assumes that students have a basic understanding of Business Administration, Management Studies, and business applications of information technology as conveyed in Bachelor Programs in IS and related fields.

Course content:

The lecture provides students with a sound understanding of management and management theories as well as with the foundations of the information society. On the basis of this understanding, students are confronted with management challenges prevalent in the information age. While doing this, special emphasis is laid on how information technology affects the capabilities of an organization to compete in the information economy. Teaching is conducted through traditional lectures complemented with case study work and discussions in the classroom. Additional reading material is provided in order to allow students to review parts of the content at their leisure and to extend their knowledge in areas of personal interest.

Learning outcomes:

Academic:

After attending the course students should be familiar with the foundations of management, i.e. (strategic) planning, controlling, organization, and leadership. They should understand the specific conditions organizations are exposed to in the "Information Age" and be able to explain the technological, social and economic phenomena constituting it. Furthermore, they are expected to have an idea of how the information age challenges traditional management concepts and what appropriate responses to these challenges might look like.

Soft skills:

5

6

The course introduces students to the analysis of case studies in small groups and furthers their ability to actively participate in classroom discussions.

Description of possible electives within the modules:

The module can be taken as part of the track Information Management or as an elective. Within the electives a minimum of 2 seminars has to be taken.

7 Examination: Final Module Exam

	Relev	vant Work:		1		1				
8	No	Number and Type; Connecti	ion to Course	Duration		Part of final mark in %				
	1	Final written exam		L	p to 120 min.	100 %				
9	Stud	y Work: none								
10	The c	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.								
	CP As	ssignment:								
	Drog	sence	No 1		1.	oo CP				
11	- ries	sence	No 2		1.	oo CP				
	Rele	evant Work	No 1		4	.oo CP				
	Tota	ıl			6 CP					
12		tht of the module grade for the (5%)	e overall grad	de:						
13	Mod inone	ule Prerequisites:								
14	1	ence: ence is strongly recommende	d to warrant le	earning	success					
	Mobility/Acknowledgement:									
	Use	Use of the module for other course programs			Master Business Administration, Master Information Systems					
15	Eng	English translation of module components			No 1: Managing the Information Age Organization					
	fron	from section 3		No 2: Tutorial on Managing the Information Age Organization						
16		onsible Lecturer: Dr. Stefan Klein, Dr. Stefan S	chellhammer		Departme School of	nt: Business and Economics				
	Misc	.:								
17										

Information Management: Tasks and Techniques

Mod	dule Title english:	Information Management: Tasks and Techniques					
Cou	rse Program:	Master Information Systems					
1	Module No: IM2	State: Elective	Language of Instruction: English				
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180		

Module Structure:

No	Type Course State		State	Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Tasks and Techniques	Compulsory	30 h (2 CH)	90
2	Exercise	Exercise on Tasks and Techniques	Compulsory	30 h (2 CH)	30

Module Profile:

3

Purpose of the module/integration into curriculum:

The course requires a sound understanding of both management studies and information processing in business. This course interlinks with the course "Managing the Information Age Organization", which deepens the students' understanding of management basics that this course builds upon. In order to provide students from a non IS-background with the managerial understanding of information processing necessary for participating successfully in this course, an extensive script on this subject is provided at the beginning of the semester.

Course content:

The lecture provides students with an overview of executives' duties in managing an organization's information and communication capabilities. These duties include tasks such as strategic information planning, strategy implementation, as well as sourcing and organizing the information function. These tasks are structured in a comprehensive framework based on management theory. While identifying critical IM tasks and responsibilities, the course presents methods and techniques that can be applied to deal with them. Class discussions on case studies give students the opportunity to consolidate their newly acquired knowledge and apply the techniques presented to typical problems. In addition, occasional discussions with IT executives allow students to reflect their conceptual knowledge in light of real world practices.

Learning outcomes:

Academic:

The course provides students with skills indispensable for an IT executive. In particular, students will obtain a comprehensive overview of the field of IT management and get acquainted with the typical tasks IT managers are charged with. They will also get to know prominent frameworks and techniques to solve IM tasks as proposed in textbooks.

Soft skills:

In addition to expertise in the fields mentioned above, students will deepen their skills in constructively analyzing and solving case studies in both classroom settings and as part of individual assignments.

Description of possible electives within the modules:

The module can be taken as part of the track Information Management or as an elective. Within the electives a minimum of 2 seminars has to be taken.

	Rele	vant Work:							
8	No Number and Type; Connection to Course		Du	ration	Part of final mark in %				
	1	Final written exam		up	to 120 min.	100 %			
	Stud	y Work:				I			
)	No	Number and Type; Connection				Duration			
	1	Answering case-study questio	ns			10 pages			
0	The o	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.							
	CP A	ssignment:							
			0 1		1.00	o CP			
	Pres	sence N	No 2 1.		1.00	o CP			
11	Relevant Work No 1				3.0	о СР			
	Study Work No 1				1.00	o CP			
	Total			6 CP					
12		ght of the module grade for the o	overall grade:						
3	Mod inone	ule Prerequisites:							
.4		ence: ence is strongly recommended t	o warrant learr	ning sı	uccess				
	Mobility/Acknowledgement:								
15	Use	Use of the module for other course programs			Master Business Administration, Master Information Systems				
15	Eng	lish translation of module comp	onents from	No 1: Tasks and Techniques					
	sect	section 3			No 2: Exercise on Tasks and Techniques				
	Responsible Lecturer: Prof. Dr. Stefan Klein, Dr. Alexander Teubner			Department: School of Business and Economics					
6			Teubner			ısiness and Economics			

Information Management: Theories

Mod	dule Title english:	Information Management: Theories					
Course Program: Master Information Systems							
1	Module No: IM3	State: Elective	Language of Instruction: English				
2	Turn: each summer semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180		

Module Structure:

No	Туре	Course	State	Workload	Workload (h)	
				Presence (h + CH)	Self- Study (h)	
1	Lecture	Theories	Compulsory	30 h (2 CH)	60	
2	Exercise	Exercise on Theories	Compulsory	30 h (2 CH)	60	

Module Profile:

Purpose of the module/integration into curriculum:

A sound understanding of management and information management as provided in the courses "Managing the Information Age Organization" and "Information Management Tasks & Techniques".

Course content:

This course deepens the students' understanding of IM tasks and techniques in that it enables them to assess underlying theoretical propositions in more detail. To this end, the lecture introduces important management theories, including market, resource and capability based theories of strategic information systems, IT strategy theory, IT value and productivity theory, organization theory of IT and theories of sourcing and governing the information function. Moreover, on the basis of this theoretical knowledge, critical issues of IM are discussed in the light of the controversial academic discussions surrounding them. The course builds on well-prepared class discussions rather than traditional lectures. The lecturer will support learning by carefully selecting papers and placing them into a broader "theoretical landscape". He will moderate and facilitate the discussions, and provide feedback on the assignments during the semester (reading papers, preparing presentations, writing minutes).

Learning outcomes:

Academic:

After the completion of this course, students will a) have access to the academic debate on IM, specifically, the international academic debate on the most important or discussed issues of information management. The students will b) discern theories underlying the frameworks and techniques proposed for solving IM tasks, including market, resource and capability based theories of strategic information systems, IT strategy theory, IT value productivity theory, organization theory of IT and theories of sourcing and governing the information function. They will be able to c) will develop a repertoire of theoretical approaches and be able to apply them to issues of information management and d) will understand the contributions of important management theories to the IS fieldand will be able to assess these tools and the underlying theories critically.

Soft skills:

In addition to providing students with the capabilities to deal with academic literature reflectively, the course trains them in presenting their take on selected academic papers to the class and furthers their general ability to take an active part in academic discussions. This ability is based

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	on a combination of reading, thinking, writing, discussing and listening skills. Students will practice their collaboration skills and develop techniques for efficient collaboration							
6	Description of possible electives within the modules: The module can be taken as part of the track Information Management or as an elective. Within the electives a minimum of 2 seminars has to be taken.							
7	Exam	nination: Examinations for ev	ery part of the m	odule				
	Rele	vant Work:			ı		i.	
	No	Number and Type; Connection	on to Course		Duration		Part of final mark in %	
8	1	Written Exam (N° 1)			Up to 120	min.	60 %	
	2	Reflexion on readings by pre 5 students), written report a reading (N° 2)		s of 3-	ca. 20 mii pages, ca		40 %	
9	Stud	y Work: none						
10	The o	equisites for Credit Points: credit points will be granted a pleted.	fter all relevant v	ork an	d study wor	k have bee	en successfully	
	CP Assignment:							
	Presence		No 1		1.0	1.00 CP		
11			No 2		1.0	1.00 CP		
	Rele	evant Work	No 1		+ -	2.50 CP		
	Tota	ıl	No 2 1.50 (o CP CP		
12	Weight of the module grade for the overall grade:							
12	6/12	0 (5%)						
13	Mod inone	ule Prerequisites:						
14		ence: ence is strongly recommende	d to warrant lear	ning su	ccess	_		
	Mobi	ility/Acknowledgement:						
15	Use	Use of the module for other course programs			Master Business Administration, Master Information Systems			
		lish translation of module co ion 3	mponents from		Theories Exercise on	Theories		
16		onsible Lecturer: Dr. Stefan Klein, Dr. Alexande	er Teubner		Departmen School of B		nd Economics	

17	Misc.:

Process Management: Information Modeling

Mod	dule Title english:	Process Management: Information Modeling					
Course Program: Master Information Systems							
1	Module No: PM1	State: Elective	Language of Instruction: English				
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180		

Module Structure:

	No	Туре	Course	State	Workload	(h)
3					Presence (h + CH)	Self- Study (h)
	1	Lecture	Information Modeling	Compulsory	30 h (2 CH)	60
	2	Exercise	Exercise on Information Modeling	Compulsory	30 h (2 CH)	60

Module Profile:

Purpose of the module/integration into curriculum:

The lecture is on one of the core topic areas in Information Systems and Business Process Management: Conceptual Modeling (i.e., process modeling, data modeling, organizational modeling etc.) with a focus on the use and reuse of conceptual models in business. Hence, the focus is not on how to create a conceptual model, but on what are the preconditions of models to really be usable in practice and on approaches and methodologies supporting model use and reuse, especially model analysis. The lecture therefore provides a theoretical basis for courses applying modeling techniques, such as PM2, PM3, BI1, ISD1, ISD2, ISD3, PR1, PR2, and PR3.

Course content:

Themes	Learning objectives
Meta modeling / meta meta modeling / meta modeling tools	To be able to design modeling languages with meta models, and to be able to design modeling tools and meta modeling tools with meta model and meta model-based databases.
Modeling frameworks	To be able to provide an overview of modeling frameworks, to be able to evaluate and compare them, and to be able to apply selected parts of them.
Model variant management	To be able to apply selected approaches on model variant management onto models of different modeling languages.
Model disambiguation	To know why unambiguous models are a precondition for actually using them for business purposes, and to apply selected methodologies on model disambiguation.
Model analysis	To know different areas of model analysis, for instance process improvement, process compliance, model transformation, model comparison, model integration, and to be able to apply selected approaches on model analysis. The focus is on pattern-based model querying.

	Proc	ess mining					sics of process mining	
	Dom	nain-specific		apply selected pro			be able to argue both in	
	modeling favor and against the usage of such modeling approaches.							
5	Learning outcomes: Academic: Impart a broad and profound understanding of the main tasks and challenges of conceptual modeling in Business Process Management. Facilitate understanding of different modeling and model analysis approaches and judge their appropriateness for specific contexts of application. Soft skills: The ability to organize small working groups independently and to give presentations in front of a large audience.							
6	Description of possible electives within the modules: The module can be taken as part of the track Process Management or as an elective. Within the electives a minimum of 2 seminars has to be taken.							
7	Examination: Examinations for every part of the module							
8	Relevant Work: No Number and Type; Conne			ion to Course	Duration	1	Part of final mark in %	
	1	Final Written Exam			120 min.		100 %	
•					Duration			
9	1	10 exercises (case st students, 4 presenta					-8 pages/case study, ca. 20 nin/presentation	
10	The c	equisites for Credit Po redit points will be gr pleted.		fter all relevant wo	rk and stu	dy work h	ave been successfully	
	CP As	ssignment:						
				No 1		1.00 (CP	
11	Pres	sence		No 2		1.00 CP		
		vant Work		No 1		3.00 CP		
	Study Work Total			No 1		1.00 CP 6 CP		
	Total					0 0		
12	Weight of the module grade for the overall grade: 6/120 (5%)							
13		ule Prerequisites: erstand basics of conc	eptual	modeling, that is, p	rocess m	odeling an	d data modeling.	
14	Presence: Presence is strongly recommended to warrant learning success							

	Mobility/Acknowledgement:					
15	Use of the module for other course programs	Master Business Administration, Master Information Systems				
	English translation of module components from		: Information Modeling			
	section 3 No 2: Exercise on Information					
16	Responsible Lecturer: Prof. Dr. Dr. h.c. Dr. h.c. Jörg Becker Department: School of Business and Economics					
17	Misc.: Besides conceptual work, the course includes work with selected Business Process Managment tools related to conceptual modeling: Process modeling tools, process analysis tools, and process mining tools.					

Process Management: Enterprise Architecture Management

Module Title english:		Process Management: Enterprise Architecture Management					
Course Program:		Master Information Systems					
1	Module No: PM2	State: Elective	tive Language of Instruction: English		lish		
2	Turn: each summer semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180		

Module Structure:

No	Type Course		State	Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Enterprise Architecture Management	Compulsory	30 h (2 CH)	60
2	Exercise	Exercise on Enterprise Architecture Management	Compulsory	30 h (2 CH)	60

Module Profile:

Purpose of the module/integration into curriculum:

This course stresses the aspect of IM as an engineering discipline, in contrast to being a management discipline only. The fundamental idea is to describe organizations as a whole, consisting of goals and strategies, business models, processes, people and information technology. Enterprise Architecture Management propagates a holistic approach that primarily aims at aligning the spheres of business and IT within one or across several companies and at facilitating and governing transformation processes. The Information Manager thereby has the role of an architect of the corporate information infrastructure. The Module "Managing IT in the Information Age" introduces students to the tasks and tools in Information Management thus setting the scene for this Module.

Course content:

This course provides insights into the concepts and methods of Enterprise Architecture Management. The need for architectures in complex organizations as an instrument for transformation is motivated by the challenges enterprises face in today's business. Architectures support the effective planning and governance of enterprises as a whole consisting of business and IT. Consistently implemented, they facilitate the understanding of business entities' interrelationships, set them in relation to strategic goals and help define the desired to-be state and the roadmap for its realization. For this purpose, concepts, methods, models and tools are discussed and enriched with insights from practice. The introduction of a specialized modeling language introduces the students to the creation of architectural artifacts. The concrete architecture realization process is underlined by the study of architecture frameworks currently discussed in research and practice.

Themes	Learning objectives
Motivation of Enterprise Architecture Management	To learn about the challenges today's enterprises are facing and the answers Enterprise Architecture Management provides in this context.
Positioning Enterprise Architecture Management	To learn the definition and major concepts of Enterprise Architecture Management, about its key applications and its role as a bridge from strategy to design.

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	Management areas To learn about the management areas relevant to Enterprise Architecture Management and associated best practices commonly applied.						
	Modeling of Enterprise Architectures To learn how to create different architectural artifacts and to connect them to create a holistic, purposeful picture of the enterprise. Moreover, to learn to use viewpoints to generate stakeholder-specific views of the architecture.						
	Ente	neworks in erprise Architecture nagement	Architecture Mar	neworks play an im agement and to ge iscussed in researd	t to know pro	minent frameworks	
5	Learning outcomes: Academic: The students' ability to develop and manage Enterprise Architectures is the course's major goal. An understanding of current developments and frameworks in the domain of architecture implementation should be obtained. Students are equipped with methods for planning, creating and governing such architectures. Furthermore, practical skills in architecture development will be conveyed with work on case studies and presentation of the results. Soft skills: Students are encouraged to prepare the contents of the lecture and exercises and to perform follow-up work in teams. This is supported by a Learnweb discussion forum that is guided by the chair. The case study is organized as group work and thus promotes the students' ability to cooperate in teams and to manage their time efficiently. The intermediary results are presented regularly by the groups in front of the complete audience. This enhances the students' presentation and discussion skills. The creation of architectural models by using a syntactically and semantically defined modeling language sharpens analytical and logic skills.						
	prese and s	entation and discuss semantically defined	ion skills. The cre modeling langua	ation of architectur ge sharpens analyt			
6	prese and s Desc The r elect	entation and discuss semantically defined ription of possible e	ion skills. The cre modeling langua lectives within the as part of the trac seminars has to b	ation of architectur ge sharpens analyt e modules: k Process Manage e taken.	ical and logic		
	prese and s Desc The r elect	ription of possible emodule can be taken ives a minimum of 2	ion skills. The cre modeling langua lectives within the as part of the trac seminars has to b	ation of architectur ge sharpens analyt e modules: k Process Manage e taken.	ical and logic	skills.	
	prese and s Desc The r elect	ription of possible e module can be taken ives a minimum of 2	lion skills. The cre modeling langua lectives within the as part of the trac seminars has to b	ation of architectur ge sharpens analyt e modules: k Process Manage e taken.	ical and logic	skills.	
7	Desc The r elect	ription of possible emodule can be taken ives a minimum of 2 nination: Examinationary want Work: Number and Type;	lion skills. The cre modeling langua lectives within the as part of the trac seminars has to b ons for every part of	ation of architectur ge sharpens analyt e modules: k Process Manage e taken. of the module	ical and logic	elective. Within the Part of final mark in	
7	Desc The r elect Exam	ription of possible emodule can be taken ives a minimum of 2 nination: Examination vant Work: Number and Type; Course	lion skills. The cre modeling langua lectives within the as part of the trac seminars has to b ons for every part of Connection to	ation of architecturge sharpens analyte modules: k Process Manage taken. If the module Duration	ical and logic	elective. Within the Part of final mark in %	
	Desc The r elect Exam Relev No	ription of possible emodule can be taken ives a minimum of 2 nination: Examination vant Work: Number and Type; Course Written Exam (N° 1) Case Study with EA	lion skills. The cre modeling langua lectives within the as part of the trac seminars has to b ons for every part of Connection to	e modules: k Process Manage taken. Duration 120 min. ca. 40 pages,	ical and logic	elective. Within the Part of final mark in % 60 %	
8 9	Desc The relect Exam Relev No 1 2 Stud Prere	ription of possible emodule can be taken ives a minimum of 2 nination: Examination vant Work: Number and Type; Course Written Exam (N° 1) Case Study with EAPresentation (N° 2)	lion skills. The cre modeling langua lectives within the as part of the trace seminars has to be ons for every part of Connection to M-Software,	ation of architecturge sharpens analytemodules: k Process Manage taken. f the module Duration 120 min. ca. 40 pages, presentation	ical and logic	elective. Within the Part of final mark in % 60 % 40 %	
8 9	Prerections of the company of the co	ription of possible emodule can be taken ives a minimum of 2 nination: Examination vant Work: Number and Type; Course Written Exam (N° 1) Case Study with EAPresentation (N° 2) y Work: none	lion skills. The cre modeling langua lectives within the as part of the trace seminars has to be ons for every part of Connection to M-Software,	ation of architecturge sharpens analytemodules: k Process Manage taken. f the module Duration 120 min. ca. 40 pages, presentation	ical and logic	elective. Within the Part of final mark in % 60 % 40 %	
7 8 8 9	Prese The comp	ription of possible emodule can be taken ives a minimum of 2 nination: Examination vant Work: Number and Type; Course Written Exam (N° 1) Case Study with EAPresentation (N° 2) y Work: none equisites for Credit Peredit points will be goleted. ssignment:	lion skills. The cre modeling langua lectives within the as part of the trace seminars has to be ons for every part of Connection to M-Software,	ation of architecturge sharpens analytemodules: k Process Manage taken. f the module Duration 120 min. ca. 40 pages, presentation	ical and logic	elective. Within the Part of final mark in % 60 % 40 %	
7 8	Prese The comp	ription of possible emodule can be taken ives a minimum of 2 nination: Examination vant Work: Number and Type; Course Written Exam (N° 1) Case Study with EAPresentation (N° 2) y Work: none equisites for Credit Peredit points will be appleted.	lectives within the as part of the trace seminars has to be consection to Connection to M-Software, Coints: granted after all re	ation of architecturge sharpens analytemodules: k Process Manage taken. f the module Duration 120 min. ca. 40 pages, presentation	ca. 40 min.	elective. Within the Part of final mark in % 60 % 40 %	

	Relevant Work	No 2			1.50 CP	
	Total				6 CP	
12	Weight of the module grade for the overall grade: 6/120 (5%)					
13	Module Prerequisites: none					
14	Presence: Presence is strongly recommended to warrant learning success					
	Mobility/Acknowledgement:					
15	Use of the module for other course programs			Master Business Administration, Master Information Systems		
-5	English translation of module components from			No 1: Enterprise Architecture Management		
	section 3		No 2: Exercise on Enterprise Architecture Management			
16	Responsible Lecturer: Prof. DrIng. Bernd Hellingrath			Department: School of Business and Economics		
17	Misc.:					

Process Management: Workflow Management

Course Program: Master Information Systems 1 Module No: PM3 State: Elective Language of Instruction: English Turn: each summer Duration: 1 Semester: 1 or 3 CP: 6 Workload (h	Module Title english:		Process Management: Workflow Management						
Turn: each summer Duration: 1	Course Program:		Master Information S	Master Information Systems					
Turn: each summer Duration: 1 Semester: 1 or 2 CP: 6 Workload (h	1	Module No: PM3	State: Elective	Language of Instruction: English		lish			
semester semester semester	2 II			Semester: 1 or 2	CP: 6	Workload (h): 180			

	Mod	ule Structure:				
	No	Туре	Course	State	Workload	(h)
3					Presence (h + CH)	Self- Study (h)
	1	Lecture	Workflow Management	Compulsory	30 h (2 CH)	30
	2	Exercise	Exercise on Workflow Management	Compulsory	30 h (2 CH)	90

Module Profile:

Purpose of the module/integration into curriculum:

The module provides insights into Workflow Management, which is the interface between the conceptual requirements towards process automation of companies, and the translation and implementation on the side of the company's Information Technology department. The module "Information Modelling" serves as a conceptual foundation. It is beneficial to have attended to it first. The module "Enterprise Architecture Management" provides a more exhaustive view on the integration of several application systems into a company's IT infrastructure, of which Workflow Management Systems are part of.

Course content:

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The module delivers basic and advanced concepts of Workflow Management (WfM), and information about the most widely used reference for WfM. It covers the whole spectrum of the Process Life-Cycle, starting from Environmental Analysis, to Process Design, Implementation, Enactment, and Evaluation. Furthermore, the module entails an exhaustive Case study, in which the students have to build a WfM System, connecting two fictional companies.

Themes	Learning objectives
(1) Basics of Workflow Management	To be able to provide an overview of the entire Process Life-Cycle, the methods applied, and to explain its relevance in the context of Enterprise Architecture Management.
(2) Conceptual workflow definition	To be able to create conceptually consistent and implementable workflow models.
(3) Technical workflow implementation	To be able to understand and create workflow implementations, and to explain the relations between (2) and (3).
(4) Workflow Management Systems	To be able to actually implement workflows with Workflow Management Systems used in practice.

Learning outcomes:

Academic:

The ability to manage business process redesign projects in organizations, an understanding of the challenges faced in the course of such a project, and techniques to cope with them.

Soft skills:

		ability to organize small working audience.	groups indep	enden	tly and to give	presentations in front of a	
6	The n	ription of possible electives wit nodule can be taken as part of t ives a minimum of 2 seminars h	he track Proce	ss Ma	nagement or a	s an elective. Within the	
7	Examination: Examinations for every part of the module						
	Relev	vant Work:	ı to Course	Du	ıration	Part of final mark in %	
8	1	Written Exam (N° 1)			o min.	50 %	
	2	Presentation (N° 2)		ma	ax. of 30 min.	50 %	
	Study	y Work: Number and Type; Connection	to Course			Duration	
9	1	Case study with group present subpresentations)	tation (divided	into n	nax. 4	max. 80 minutes	
ιο	The c	equisites for Credit Points: credit points will be granted afte pleted.	r all relevant w	ork ar	nd study work l	have been successfully	
	CP As	ssignment:					
	Presence Relevant Work				1.00		
			0 2		1.00		
l 1			No 1		1.50		
					1.50		
	Tota	ıl			6 CP		
l2	Weig	ht of the module grade for the o	overall grade:	6/120	(5%)		
13	Modu	ule Prerequisites: none					
L 4	Prese	ence: Presence is strongly recon	nmended to wa	arrant	learning succe	SS	
	Mobi	lity/Acknowledgement:					
15	Use of the module for other course programs			Master Business Administration, Master Information Systems			
ا و-	_	English translation of module components from section 3		No 1: Workflow Management No 2: Exercise on Workflow Manage			
16		onsible Lecturer: rmin Stein		Department: School of Business and Economics			
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Business Networks: Interorganizational Systems

Mod	dule Title english:	Business Networks: Interorganizational Systems				
Cou	rse Program:	Master Information Systems				
1	Module No: BN1	State: Elective	Language of Instruction: English			
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Module Structure:

No	Туре	Course	State	Workload (h)	
				Presence (h + CH)	Self- Study (h)
1	Lecture	Interorganizational Systems	Compulsory	30 h (2 CH)	45
2	Exercise	Exercise on Interorganizational Systems	Compulsory	30 h (2 CH)	75

Module Profile:

Course content:

Networks have become ubiquitous forms of organizing in and between economy, public administration and society at large. On the backdrop of this development, this module introduces interorganizational systems and networks in a business context, yet with linkages to public administration (e.g. customs) and social networks. It aims to explore the contingencies and strategies that lie behind the evolution and use of interorganizational information infrastructures and applications (IOS). Further, students will examine the impact of IOS on distributed forms of value generation such as electronic markets and various types of networks. Drawing on case examples as well as theoretical concepts, a life cycle perspective of IOS management will be introduced. The implications of IOS will be discussed from various perspectives such as industry transformation, intermediation, strategic management, organization, information management, IS development and standardization. This discussion will be informed by theories addressing networking issues such as institutional economics, collective action or organization theory.

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strategic lenses on networks, organizational and governance issues, managing (in) a collaborative environment, standardization, ecosystems and infrastructures, to theorem and shap	ents will acquire a repertoire of theories and to study corporate networks and learn how to m to selected cases of networks in order to neir design and evolution. They will understand noies of network design and key dimensions of nanagement. This enables them to contribute tical and empirical research as well as to create e practical socio-technical systems based on ded principles.

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Learning outcomes:

Academic:

Upon completion of this course, students will

a) be able to distinguish different approaches to govern economic activities and different types of interorganizational network arrangements.

- b) They will be able to discuss the suitability of networks for different economic tasks and environments.
- c) They will comprehend dilemmas involved in the development of standards.
- d) They will be able to reflect on approaches for managing in a dynamic, networked environment, including the facilitation of collaboration and ambidexterity.
- e) The participants will develop a repertoire of theoretical approaches and be able to apply them to explain cases of IOS and interorganizational infrastructures across various industries.

Soft skills:

- a) In addition to providing students with the capabilities to deal with academic concepts and literature reflectively, the course helps to further the students' ability to take an active part in discussions. This ability is based on a combination of reading, thinking, writing, discussing and listening skills.
- b) Moreover, students will develop skills in applying these techniques to practical problems.
- c) Course assignments will be organized as group work, so that students can practice their collaboration skills and learn techniques for efficient collaboration.
- Description of possible electives within the modules:

 The module can be taken as part of the track Business
 - The module can be taken as part of the track Business Networks or as an elective. Within the electives a minimum of 2 seminars has to be taken.
- **7 Examination:** Examinations for every part of the module

	Relevant Work:							
8	No	Number and Type; Connection to Course	Duration	Part of final mark in %				
	1	Written Exam (N° 1)	120 min.	50 %				
	2	In groups of 3 - 5 students: Reflexion on readings by presentation, written report and comments on reading (N° 2)	Ca. 15 min., ca 5 pages, ca 6 pages	50 %				

9 Study Work: none

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Prerequisites for Credit Points:

The credit points will be granted after all relevant work and study work have been successfully completed.

	CP Assignment:					
	Dragongo	No 1	1.00 CP			
11	Presence	No 2	1.00 CP			
	Delevent Week	No 1	2.00 CP			
	Relevant Work	No 2	2.00 CP			
	Total		6 CP			

- Weight of the module grade for the overall grade: 6/120 (5%)
- Module Prerequisites:

Presence:

Presence is strongly recommended to warrant learning success

15	Mobility/Acknowledgement:				
	I lice of the module for other course programs		Master Business Administration, Master Information Systems		
	English translation of module components from		No 1: Interorganizational Systems		
	section 3		No 2: Exercise on Interorganizational Systems		
16	Responsible Lecturer: Prof. Dr. Stefan Klein		Department: School of Business and Economics		
17	Misc.:				

Business Networks: Information Security

Mod	dule Title english:	Business Networks: Information Security				
Cou	rse Program:	Master Information Systems				
1	Module No: BN2	State: Elective	Language of Instruction: English			
2	Turn: each summer semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Module Structure:

No	Туре	Course	State	Workload (h)	
				Presence (h + CH)	Self- Study (h)
1	Lecture	Information Security	Compulsory	30 h (2 CH)	60
2	Exercise	Exercise on Information Security	Compulsory	30 h (2 CH)	60

Module Profile:

Course content:

This lecture covers the foundations of information security including the specification of protection goals, adversary models, security mechanisms (e.g., identification, access control) and cryptographic primitives to enforce protection goals in distributed systems (e.g., symmetric and asymmetric encryption, integrity protection). Security mechanisms will be discussed both from the perspective of a system operator, who protects a larger distributed system, as well as from the end users' point of view, who may wish to use security technology to self-protect against untrustworthy system operators.

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Themes Learning objectives

Lecture: Theoretical Security, Practical Security, Security Strategy, Privacy Exercise: Primer on Information Theory, Primer on Coding Theory, Primer on Number Theory, Primer on Computational Complexity, Block Cipher Operating Modes, exercises accompanying the lecture

This course contributes to ensure that every graduate who potentially makes decisions with security impact has sufficient knowledge to a) identify security issues, b) communicate effectively with security experts, c) keep aware of changing technological limits, d) evaluate security advises critically and comprehensively, e) oversee the implementation of security measures, and f) assume responsibility for their effects and potential sideeffects.

Learning outcomes:

Academic:

a) identify security issues b) keep aware of changing technological limits c) evaluate security advises critically and comprehensively d) oversee the implementation of security measures

a) communicate effectively with security experts b) assume responsibility for their effects and potential sideeffects

Exa	mination: Examinations for e	very part of the mo	odule				
Rele	evant Work:						
No	Number and Type; Connec	tion to Course	Duration		Part of final mark in %		
1	Oral examination (N° 1)		Ca	. 20 min.	80 %		
2	One written exercise (N° 2)		Ca	. 10 pages	20 %		
Stu	Study Work: none						
The com	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.						
	Assignment:	No 1		1.00	1.00 CP		
		No 2		1.00	1.00 CP		
Re	levant Work	No 1		3.00			
		No 2		1.00	CP		
Tot	tal		6 CP				
	ght of the module grade for t 20 (5%)	he overall grade:					
Mod	dule Prerequisites: e						
Presence: Presence is strongly recommended to warrant learning success							
Pres	Mobility/Acknowledgement:						
	bility/Acknowledgement:		Master Business Administration, Master Information Systems				
Mol	bility/Acknowledgement: e of the module for other cou	rse programs			,		
Mol Us Eng	e of the module for other cou glish translation of module co		Inforr				
Mol Us Eng	e of the module for other cou		Informula No 1:	mation Systems Information Se			

Business Networks: Network Economics

Mod	dule Title english:	Business Networks: Network Economics				
Cou	rse Program:	Master Information Systems				
1	Module No: BN3	State: Elective	Language of Instruction: English			
2	Turn: each summer semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Module Structure:

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No	Туре	Course	State	Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Network Economics	Compulsory	30 h (2 CH)	60
2	Exercise	Exercise on Network Economics	Compulsory	30 h (2 CH)	60

Module Profile:

Purpose of the module/integration into curriculum:

There is intentional overlap with the module BN Interorganizational Systems, which complements this course by taking a qualitative-holistic approach to questions in the scope of network economics.

Course content:

This course provides an introduction to network economics. It teaches methodological and formal economics skills tailored to students of Information Systems. Emphasis is put on simple models lending themselves to rigorous solutions. Participants immerse in the notion that networks form the social and economic fabric of an information society, and grasp the emergent properties of technical design choices. They learn by examining many practical examples to appreciate the power of networks as well as ways to control it. Successful graduates are equipped with essential skills that qualify them for assuming responsibility in strategy teams of network industries (including start-ups), policy-making bodies, or research institutions.

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Themes

Learning objectives

History and foundations of network economics, agents, incentives, externalities, network structures, topologies, and dynamics, primers on game and graph theory, patterns and strategies of behaviour in networks (games, random graphs, degree distributions; non-cooperative network games, congestion, risk propagation; network formation, dynamics, standards, adoption; network management and regulation, pricing, strategic partnerships, competition); analysis tools, as well as practical examples

a) Students learn to "think in networks". They get a deep understanding of the role of network topology as a distinctive factor that defines the properties of complex social and technical systems. They get used to the ideas of emergence, feedback loops and equilibria. b) They will develop a repertoire of models to describe as well as analytical tools to analyze and explain phenomena arising in networks. c) They can apply their knowledge to study new real-world problems with the lens of network economics and develop appropriate research designs. d) Awareness of the limitations of formal models, taught by examples of failure,

					blind relianc ble action.	e and encourages
5	Acad a) Th phen shap Soft a) St topo syste apply netw	ee practical socio-techni skills: udents learn to "think in logy as a distinctive face ems. They get used to th	orks b) Contribute to the cal systems based on warm networks". They get a tor that defines the properties of emergence, precedented ways to steness of the limitations	deep uperties feedbacudy neverties	l and empirion nded principle nderstanding of complex sock loops and wreal-world pall models, ta	al research c) Create and les. g of the role of network ocial and technical equilibria b) They can problems with the lens of
5	The r	ription of possible elec module can be taken as ives a minimum of 2 se	part of the track Busin	ess Net	works or as a	n elective. Within the
,	Exam	nination: Examinations	for every part of the mo	odule		
3	Relev	vant Work: Number and Type; Co	nnection to Course	Dura	tion	Part of final mark in %
	1	Final Written Exam		120	min.	100 %
	Stud No	y Work: Number and Type; Co	nnection to Course			Duration
	1	12 written comments	, ,			ca. 0,5 page per commen
	3	Group Presentation (c Written report	a 3-5 students)			Ca. 5 pages
0	The c	equisites for Credit Poir credit points will be gran pleted.		ork and	l study work ł	nave been successfully
	CP A	ssignment:				
	Bros	sence	No 1		1.00	
	Presence			No 2		CP
						CD
1		evant Work	No 1		2.50	
1	Rele				0.50	СР
1	Rele	evant Work dy Work	No 1			CP CP

13	Module Prerequisites:		
14	Presence: Presence is strongly recommended to warrant learn	ning sı	ıccess
	Mobility/Acknowledgement:		
15	Use of the module for other course programs		er Business Administration, Master mation Systems
	English translation of module components from	No 1:	Network Economics
	section 3	No 2	: Exercise on Network Economics
16	Responsible Lecturer: Prof. Dr. Stefan Klein		Department: School of Business and Economics
17	Misc.:		

Business Intelligence: Management Information Systems and Data Warehousing

Мос	dule Title english:	Business Intelligenc Warehousing	e: Management Infor	mation Sys	stems and Data
Cou	rse Program:	Master Information S	Systems		
1	Module No: Bl1	State: Elective	Language of Instru	ction: Engl	ish
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180
	Module Structure:				

No	Туре	Course	State	Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Management Information Systems and Data Warehousing	Compulsory	30 h (2 CH)	60
2	Exercise	Exercises on Management Information Systems and Data Warehousing	Compulsory	30 h (2 CH)	60

Module Profile:

Purpose of the module/integration into curriculum:

This module is embedded into the Business Intelligence track in a way that it complements the Data Analytics courses from a business and system perspective. In contrast to the other two modules in this track, Management Information Systems and Data Warehousing (MIS+DWH) does not focus on statistical methods. It can be seen as an extension to the Data Management course from the Bachelor degree, as the design of Data Warehouse systems is linked to understanding the modeling of databases and underlying analytical processes (e.g., OLAP). The Data Integration course is seen as a valuable supplement: while in MIS+DWH the focus is set on activities within the Data Warehouse, Data Integration is mostly concerned with getting the data from various sources into one system, which is the Data Warehouse in this case.

Course content:

Business Intelligence (BI) refers to a variety of methods and techniques for the analysis of business data such as Data Warehousing (DWH), Reporting, Online Analytical Processing (OLAP), and Data Mining. This module addresses the methodical design and implementation of Data Warehouse systems in support of management's decision making, particularly via appropriate use of multidimensional schema design, ETL, and OLAP techniques. All relevant concepts are demonstrated from both a theoretical and a practical perspective. In this course, traditional lectures are complemented by student presentations that provide additional content. In addition, exercises and case studies provide sample opportunities to perform the various development phases in (pseudo-) practical settings. The practical perspective is enriched by guest lectures from the field.

Themes	Learning objectives
Data Warehousing Fundamentals	To define architectures and use cases of Data Warehousing and Management Information Systems and to assess their roles for companies
OLAP Processing and Optimization	To compare differences between OLTP and OLAP; to contrast OLAP workloads and demonstrate appropriate OLAP optimization techniques

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	ETL [Design	To compare different ETL pro processes	cesses and tools;	to design simple ETL
	OLAI	P Modeling	To describe the role of functi multidimensional structures		
		P Modeling roaches	To assess different OLAP mo conceptual modeling of scen		
	OLAI Impl	ementation	To describe the architecture implement reports with a sta		
	Mod	ern Architectures	To characterize modern arch (multi/many core, in-memory streaming data), and increas	y), novel data requ	uirements (Big Data,
	Proje	ect Management	To compare different approa evaluate different BI strategi implementation		
		mation agement	To understand Data Science needs analyses	concepts; to be a	ble to apply information
5	Acade The s for cri stude to crit Soft s	tudents learn to ki eation and mainte ents will develop a tically reflect on th skills: Igh exercises and Presentation te Team work Ability to comm Autonomous w Time managem	presentations, students are al chniques nunicate and collaborate orking	I Management Inf common terms in t	ormation Systems. The the domain and will be able
6	The m	nodule can be take	electives within the modules on as part of the track Busines 2 seminars has to be taken.		as an elective. Within the
7	Exam	ination: Examinat	ions for every part of the mod	ule	
		ant Work:		l_	
8	No 1	Number and Type Final Written Exa	n Connection to Course	Duration 120 min.	Part of final mark in %
		<u> </u>			1200.70
	No	/ Work: Number and Type	e; Connection to Course		Duration
9	1	4 Exercises			each 10 pages
	2	1 presentation			20 minutes
10	The c	quisites for Credit redit points will be leted.	Points: granted after all relevant wor	k and study work	have been successfully

	CP Assignment:				
	Bussia	No 1		1.00 CP	
	Presence	No 2		1.00 CP	
11	Relevant Work	No 1		2.50 CP	
	Study Work	No 1		1.00 CP	
	Study Work	No 2		0.50 CP	
	Total			6 CP	
12	Weight of the module grade for the 6/120 (5%)	e overal	l grade:		
13	Module Prerequisites:				
14	Presence: Presence is strongly recommended	d to warr	ant learning s	uccess	
	Mobility/Acknowledgement:				
	Use of the module for other cours	se	Master Busin Systems	ess Administration, Master Information	
15	English translation of module		No 1: Management Information Systems and Data Warehousing		
	components from section 3		No 2: Exercis and Data Wa	es on Management Information Systems rehousing	
16	Responsible Lecturer: Prof. Dr. Dr. h.c. Dr. h.c. Jörg Becke Vossen	er, Prof. C	Or. Gottfried	Department: School of Business and Economics	
17	Misc.:				

Mo	dule Tit	le english:		Busin	ess Intelligen	ce: Data Analytics -	I		
Cou	ırse Pro	gram:		Maste	er Information	Systems			
1	Modu	l e No: Bl2		State:	: Elective	Language of Ins	ruction: Englis	sh	
2	Turn: seme	each winter ster		Durat i		Semester: 1 or 2	CP: 6	Workload (h	1): 180
	Modu	le Structure	:						
	No	Туре	Cou	ırse			State	Workload	(h)
3								Presence (h + CH)	Self- Study (h)
	1	Lecture	Data	a Analy	rtics I		Compulsory	30 h (2 CH)	60
	2	Exercise	Exe	rcise or	n Data Analyt	ics - I	Compulsory	30 h (2 CH)	60
4	Purpo The tr Mana proba Cours The le	rack "Busine gement and ability theory se content: ecture focuss are data pro	ss Inte the lik and st ses on le eproce	elligence te. The statistics multiva	students are s s and the Stat ariate statistic	y to start a career in supposed to be fam istical Programming al methods in the cased learning. Practi	liar with the b Language R. ontext of Data	asic concep Science. The	e main
4	Purpo The tr Mana proba Cours The le	pse of the mo rack "Busine gement and ability theory se content: ecture focuss s are data pro are R are int	ss Inte the lik and st ses on le eproce	elligence te. The statistics multiva	e" offers a wastudents are s s and the Stat ariate statistic and unsupervi he lecture and	y to start a career in supposed to be fam istical Programming all methods in the cased learning. Practid a tutorial.	liar with the b Language R. ontext of Data	asic concep Science. The	e main
4	Purpo The tr Mana proba Cours The le topics Softw	pse of the mo rack "Busine gement and ability theory se content: ecture focuss s are data pro are R are int	ss Inte the lik and st ses on eproce egrated	elligence te. The statistics multiva	e" offers a wastudents are stand the State statistic and unsupervihe lecture and Learning obj	y to start a career in supposed to be fam istical Programming all methods in the cased learning. Practid a tutorial.	liar with the b Language R. ontext of Data cal exercises u	asic concep Science. Th sing the sta	e main tistica
4	Purpo The tr Mana proba Cours The le topics Softw	pse of the mo rack "Busine gement and ability theory se content: ecture focuss are data propare R are int	ss Inte the lik and st ses on eproce egrated	elligence te. The statistics multiva	e" offers a wastudents are stand the State ariate statistic and unsupervihe lecture and Learning objusta quality analysis	y to start a career in supposed to be fam istical Programming all methods in the clised learning. Practid a tutorial.	liar with the b Language R. ontext of Data cal exercises u	asic concep Science. The sing the sta	e main tistica
5	Purpo The tr Mana proba Cours The le topics Softw Then Data Unsu	pse of the morack "Busine gement and ability theory se content: ecture focuses are data prare R are interes Preprocessi upervised Leading outcome emic: tudent is supfically unsupprince are processions.	ss Inte the lik and st ses on re eproce egrated ing arning es: opposed oervised ique fo	e. The statistics multival ssing a d into the latest to have departed to have determined a given	e" offers a wastudents are stand the State ariate statistic and unsupervihe lecture and Learning obj Data quality analysis Clustering, D The an understaing, as well aster practical tales.	y to start a career in supposed to be fam istical Programming all methods in the cased learning. Practid a tutorial. ectives analysis and data claimensionality Reduced in the case of the state of the state ability to choose	liar with the b Language R. ontext of Data cal exercises u eaning a-prior ction Technique	asic concep Science. The sing the sta i to quantitates	e main tistica tive
	Purpor The tr Mana proba Cours The le topics Softw Then Data Unsu Learn Acade The si speci appro Soft si Team Descripted The m	pse of the morack "Busine gement and ability theory se content: ecture focuses are data prare R are interest are R are interest.	ss Inte the lik and st ses on seproce egrated arning arning coposed pervise ique fo ntation ssible e e taker	Illigence e. The statistics multiva essing a d into the I to have d learning or a give n technic	e" offers a wastudents are stand the State and the State ariate statistic and unsupervible lecture and Learning objustion Data quality analysis Clustering, Determing an understating, as well asten practical tatiques es within the	y to start a career in supposed to be fam istical Programming all methods in the cased learning. Practid a tutorial. ectives analysis and data claimensionality Reduces and sing of state of the sthe ability to chooses. Business Intelligen	liar with the b Language R. ontext of Data cal exercises u eaning a-prior ction Technique e art technique se and implem	asic concep Science. The state of the state	e main tistica tive
5	Purpor The tri Mana proba Cours The le topics Softw Then Data Unsu Learn Acade The si speci appro Soft si Team Description The melecti	pse of the morack "Busine gement and ability theory see content: ecture focuses are data privare R are interest are R are interest are received by the content is supervised Lecture fically unsupervised technics are received by the content is supervised to the content is superv	ss Inte the lik and st ses on re eproce egrated ng arning poposed pervised ique fo ntation ssible e e taker um of 2	Illigence e. The statistics multiva essing a d into the I to have d learning a give n technic elective n as pa 2 semir	e" offers a wastudents are statudents are statudents are statistic and unsupervible lecture and Learning objustion Data quality analysis Clustering, Defending, as well asten practical tatiques es within the rt of the track	y to start a career in supposed to be fam istical Programming all methods in the cased learning. Practid a tutorial. ectives analysis and data call immensionality Reductions and the ability to chooses. Business Intelligent taken.	liar with the b Language R. ontext of Data cal exercises u eaning a-prior ction Technique e art technique se and implem	asic concep Science. The state of the state	e main tistica tive

	No	Number and Type; Connecti	on to Course	Du	ration	Part of final mark in %
	1	Final Written Exam		12	o min.	100 %
9	Stud	y Work: none				
10	The o	equisites for Credit Points: credit points will be granted a pleted.	fter all relevant w	ork a	nd study work	nave been successfully
	CP A	ssignment:				
	Drog	sence	No 1		1.00	СР
11	- Files	Sence	No 2		1.00	СР
	Rele	evant Work	No 1		4.00	СР
	Tota	ıl			6 CP	
12		tht of the module grade for tho (5%)	e overall grade:			
13	Mode	ule Prerequisites:				
14		ence: ence is recommended to warr	ant learning succ	ess.		
	Mobi	ility/Acknowledgement:				
15	Use	of the module for other cours	se programs		ter Business Ac mation System	lministration, Master s
	_	lish translation of module co	mponents from	No 1	: Data Analytics	:1
	sect	tion 3		No 2	: Exercise on D	ata Analytics - I
16		onsible Lecturer: Dr. Heike Trautmann			Department: School of Bus	siness and Economics
17	Misc	.:				

	ness Int								
Мо	dule Tit	le english:		Busines	s Intelligenc	e: Data Analytics - I	<u> </u>		
Cou	ırse Pro	gram:		Master I	nformation S	Systems			
1	Modu	ı le No: BI3		State: El	lective	Language of Insti	ruction: Engli	sh	
2	Turn: seme	each summe ster	er	Duration semeste		Semester: 1 or 2	CP: 6	Workload (h	ı): 180
	Modu	ile Structure	:						
	No	Туре	Cou	rse			State	Workload	(h)
3								Presence (h + CH)	Self- Study (h)
	1	Lecture	Data	a Analytics	s - II		Compulsory	30 h (2 CH)	60
	2	Exercise	Exer	cise on Da	ata Analytics	s - II	Compulsory	30 h (2 CH)	60
4	Purpo The tr Mana proba Cours The le	gement and ability theory se content: ecture focuss are evolution	ss Intel the like and sta ses on r	ligence" (e. The stud atistics an multivaria ptimizatio	offers a way dents are sund the Statis te statistical on and super	to start a career in I pposed to be famili tical Programming I I methods in the cor rvised / machine lea	ar with the balanguage R. Intext of Data arring. Practi	asic concep ^o Science. The	e main
4	Purpo The tr Mana proba Cours The le	rack "Busine gement and ability theory se content: ecture focuss are evolutionatistical Soft	ss Intel the like and sta ses on r	ligence" (e. The stud atistics an multivaria ptimizatio	offers a way dents are sund the Statis te statistical on and superrated into the	to start a career in I pposed to be famili tical Programming I I methods in the cor rvised / machine lea e lecture and a tuto	ar with the balanguage R. Intext of Data arring. Practi	asic concep ^o Science. The	e main
4	Purpo The tr Mana proba Cours The le topics the st	rack "Busine gement and ability theory se content: ecture focuss are evolutionatistical Soft	ss Intel the like and st ses on r onary o tware R	ligence" c e. The stud atistics an multivaria ptimizatio are integ	offers a way dents are sund the Statis te statistical on and superrated into the	to start a career in I pposed to be famili tical Programming I I methods in the cor rvised / machine lea e lecture and a tuto	ar with the balanguage R. Intext of Data arning. Practionial.	asic concep Science. The cal exercise	e main
4	Purpo The tr Mana proba Cours The le topics the st	rack "Busine gement and ability theory se content: ecture focuss are evolutionatistical Soft	ss Intel the like and st ses on r onary o tware R	ligence" of the student of the stude	offers a way dents are sund the Statistical on and superrated into the Learning of Selected re	to start a career in I pposed to be famili tical Programming I methods in the corvised / machine leade lecture and a tuto	ar with the balanguage R. Intext of Data arning. Practivial.	asic concep Science. The cal exercise oaches	e main
5	Purpo The tr Mana proba Cours The le topics the st Then Supe Learn Acade The si speci and in	pse of the morack "Busine gement and ability theory se content: ecture focuss are evolutionaristical Softmes ervised Learning utionary Optiming outcome emic: tudent is supfically supervisedly supervised supervise	ss Intel the like and st ses on r onary o tware R imizatio	ligence" of atistics and multivariar ptimization are integrated are integrated are integrated are integrated are are are are are approprial are	offers a way dents are sund the Statistical on and superrated into the Selected results of the Selecte	to start a career in I pposed to be famili tical Programming I methods in the corvised / machine leade lecture and a tuto bjectives	ar with the balanguage R. Intext of Data arning. Practionial. Ification appropriate and technique well as the a	Science. The cal exercise oaches	e main s using
	Purpor The tr Mana proba Cours The le topics the st Then Supe Learn Acade The s: speci and in Soft s Team Descripted The m	rack "Busine rack "Busine gement and ability theory se content: ecture focuss are evolutionatistical Soft mes ervised Learning autionary Optiming outcome emic: tudent is supfically supermplement (in skills: work, presenting outcome emics)	ss Intel the like and st ses on r onary o tware R ning / N imization r oposed vised le n R) an ntation ssible e e taken	ligence" of e. The student is tics and multivariation are integrated are integrat	offers a way dents are sund the Statistical on and superrated into the Selected results of the Single- and an understand evolutionate technique es	to start a career in I pposed to be famili tical Programming I methods in the corvised / machine leave lecture and a tuto bjectives I multiobjective Evo ding of state of the ary optimization, as a for a given practical odules: usiness Intelligence	ar with the balanguage R. Intext of Data arning. Practivial. Ification appropriate and technique well as the all task.	Science. The cal exercise oaches imization	e main s using
5	Purpor The tr Mana proba Cours The le topics the st Then Supe Learn Acade The si speci and in Soft si Team Descri The melecti	pse of the morack "Busine gement and ability theory se content: ecture focuss are evolutionatistical Softmes ervised Learning utionary Optiming outcome emic: tudent is supplement (in skills: work, presented to an bottom of postionally can be represented to a postional can	ss Intel the like and st ses on r onary o tware R imization poposed vised le n R) an ntation ssible e e taken um of 2	ligence" of e. The student is tics and integral	offers a way dents are sund the Statistical on and superrated into the Selected results of the Single- and superrated into the Selected results of the track B is has to be to see the Selected sees.	to start a career in I pposed to be famili tical Programming I methods in the corvised / machine leave lecture and a tuto bjectives I Multiobjective Evo ding of state of the ary optimization, as e for a given practical usiness Intelligence aken.	ar with the balanguage R. Intext of Data arning. Practivial. Ification appropriate and technique well as the all task.	Science. The cal exercise oaches imization	e main s using

	No	Number and Type; Connection	on to	Duration			Part of final mark in %		
	1	Written Exam (N° 1)		120 min.			60 %		
	2	Case study with R software, presentation (N° 2)		Ca 40 Min. (presentation), ca 15 pages			40 %		
9	Stud	Study Work: none							
10	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.								
	CP Assignment:								
	D		No 1	1 1.00 CP					
11	Pres	sence	No 2			1.00 CP	1.00 CP		
	Pole	evant Work	No 1	lo 1 2.50 CF		2.50 CP			
		evalit work	No 2			1.50 CP	1.50 CP		
	Tota	al	6 CP						
12	Weight of the module grade for the overall grade: 6/120 (5%)								
13	Module Prerequisites: none								
14	Presence: Presence is strongly recommended to warrant learning success								
	Mobility/Acknowledgement:								
15	Use of the module for other course programs				Master Business Administration, Master Information Systems				
	English translation of module components from			m No	No 1: Data Analytics - II				
	section 3				No 2: Exercise on Data Analytics - II				
16		onsible Lecturer: Dr. Heike Trautmann			Department: School of Business and Economics				
17	Misc	:							

Мо	dule Tit	le english:		Information Systems Development: Logic Specification and Programming						
Cou	ırse Pro	gram:		Master Information S	Systems					
1	Module No: ISD1			State: Elective	Language of Instruction: English					
2	Turn: each winter semester			Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (I	Workload (h): 180		
	Module Structure:									
3	No	Туре	Cou	ırse	State	Workload (h)				
							Presence (h + CH)	Self- Study (h)		
	1	Lecture	Log	ic Specification and P	rogramming	Compulsory	30 h (2 CH)	45		
	2	Exercise		rcise on Logic Specific gramming	Compulsory	30 h (2 CH)	75			
	Purpo It is a	ssumed that	the st	integration into curric						

biweekly exercises.

Themes	Learning objectives					
Logics	Expressing the relationships between real-world entities in logic. Knowing how to transform a logic specification into an executable Prolog program.					
Prolog	Knowing the features of the logic programming language Prolog, such as Horn-rules, unification, SLD-resolution, backtracking, negation, and cut. Being able to program in Prolog.					
Constraint Solving	Expressing real-world relationships as constraints over a suitable domain. Knowing how to solve such constraints using a constraint solver from Prolog.					
Business Rules Management Systems	Knowing how to express volatile business logic by rules. Including these rules into a business rules management system (BRMS) such as Drools. Knowing how the BRMS evaluates the rules. Integrating a BRMS into an information system.					
Temporal Logics and Model Checking	Expressing temporal relationships by temporal logics such as CTL and LTL. Knowing how to automatically check information systems for compliance with a temporal specification. Being able to apply a model checker to guarantee the correctness of program.					

	Datalog and Deductive Databases Knowing the syntax and semantics of the logic database-query language Databases							
5	Acade The s speci mode Soft	tudents learn to fication into an el checking. skills: xercises are sol	executable lo	ogic program pos	sibly includin	ig constr	ic and to transform such a raints or to handle it using ret some experience with	
6	Description of possible electives within the modules: none							
7	Exam	ination: Examir	ations for ev	very part of the m	odule			
8	Relevant Work: No Number and Type; Connect			ion to Course	Duration		Part of final mark in %	
	Final written exam				120 min.		100 %	
9	Study Work: No Number and Type; Connect every two weeks exercise s			olved in groups ca		ca 15 p	uration a 15 pages/exercise, in total ca 20 pages	
10	The c	quisites for Crearedit points will bleted.		fter all relevant w	ork and stud	y work h	ave been successfully	
	CP As	ssignment:						
	Presence		No 1		1.00 CP			
11			No 2		1.00 CP			
	Relevant Work			No 1		3.00 CP		
	Study Work			No 1		1.00 CP		
	Total 6 CP							
12		ht of the module (5%)	grade for th	ie overall grade:				
13	Modu none	ıle Prerequisites	i:					
14	Prese Prese		ecommende	d to warrant learr	ning success			
15	Mobility/Acknowledgement:							

	Use of the module for other course programs	Master Business Administration, Master Information Systems				
	English translation of module components	No 1: L	No 1: Logic Specification and Programming			
	English translation of module components from section 3		No 2: Exercise on Logic Specification and Programming			
16	Responsible Lecturer: Prof. Dr. Herbert Kuchen		Department: School of Business and Economics			
17	Misc.: The module can be taken as part of the track Information Systems Development or as an elective.					

Information Systems Development: Data Integration

Mod	dule Title english:	Information Systems Development: Data Integration				
Cou	rse Program:	Master Information Systems				
1	Module No: ISD2	State: Elective	Language of Instruction: English			
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Self-

Study

Module Structure:

		Ĭ.	1	l .	I	
	No	Туре	Course	State	Workload	(h)
3					Presence (h + CH)	Sel Stu (h)
	1	Lecture	Data Integration	Compulsory	30 h (2 CH)	60
	2	Exercise	Exercise on Data Integration	Compulsory	30 h (2 CH)	60

Module Profile:

Purpose of the module/integration into curriculum:

Data Integration is a core requirement for diverse information system development tasks, ranging from Web search and mash-ups to data warehousing and business intelligence. In this course, a collection of tools and techniques is presented that can be applied in modern data integration tasks; these range from view construction and query processing in heterogeneous distributed databases to schema mapping and matching, Web services and mash-up APIs. In this course, lectures are complemented by student presentations that provide additional content. In addition, exercises provide ample opportunities to apply the various techniques in realistic and practical settings.

Course content:

Students will become able to explain the problems, issues, solutions, techniques, and tools relating to data integration. They will be able not only to locate and present relevant sources and research in the area, but also to apply data integration techniques in practical scenarios. Moreover, they will be familiarized with the current research literature in the field.

Themes	Learning objectives
Introduction, Background, Architectures	To discuss the problems, issues, solutions, techniques, and tools relating to data integration
Web Crawling, Search Engines	To discuss and apply integration on the Web as the currently most dominating integration application
Social media analysis, advertising, and recommendation	To discuss and apply techniques for social media analysis, advertising, and recommender systems
Data cleansing, data fusion, data quality	To apply basic activities in data integration
Schema matching, schema mapping	To explain and apply approaches to match and map data between various data sources

	GaV	/LaV Modeling			niques (in this case ntext of data integration			
5	Learning outcomes: Academic: In the oral presentation, the student should demonstrate the ability • to select, engage with, assess, and apply pieces of literature, • to build a concise, yet coherent argument, and • to identify open issues. In the written examination, the student should demonstrate the ability • to integrate and apply several concepts, • to apply the concepts to a data integration scenario. Soft skills: Through exercises and presentations, students are able to develop the following soft skills: - Presentation techniques - Team work - Ability to communicate and collaborate - Autonomous working - Time management - Application of theoretical concepts in practical settings							
5	Description of possible electives within the modules: The module can be taken as part of the track Information Systems Development or as an elective. Within the electives a minimum of 2 seminars has to be taken.							
,	Exam	nination: Examinations for e	every part of the mod	lule				
	Relev No	vant Work: Number and Type; Connec	ction to Course	Duration	Part of final mark in %			
3	1	Written exam (N° 1)		120 min.	60 %			
	2	Case study exercise with p	oresentation (N° 2)	ca 40 pages, 30 min.	40 %			
•	Stud	y Work: none						
	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully							
0		•	after all relevant wo	rk and study work h	ave been successfully			
.0	comp	redit points will be granted	after all relevant wo	rk and study work h	ave been successfully			
0	CP As	redit points will be granted bleted. ssignment:	after all relevant wo	rk and study work h				
	CP As	redit points will be granted bleted.			CP			
	CP As	redit points will be granted pleted. ssignment: sence	No 1	1.00	CP CP			
	CP As	redit points will be granted bleted. ssignment:	No 1 No 2	1.00 (CP CP			
	CP As	redit points will be granted pleted. ssignment: sence	No 1 No 2 No 1	1.00 (1.00 (2.50 (CP CP			
11	CP As Pres Rele Tota	redit points will be granted pleted. ssignment: sence	No 1 No 2 No 1 No 2	1.00 (1.00 (2.50 (CP CP			
.1	Pres Rele Tota Weig 6/12	redit points will be granted pleted. ssignment: sence evant Work tht of the module grade for	No 1 No 2 No 1 No 2	1.00 (1.00 (2.50 (CP CP			
11	Prese Model Basic	redit points will be granted pleted. ssignment: sence evant Work th of the module grade for to (5%) ule Prerequisites:	No 1 No 2 No 1 No 2	1.00 (1.00 (2.50 (CP CP			

	Use of the module for other course programs English translation of module components from section 3		Master Business Administration, Master Information Systems		
			No 1: Data Integration No 2: Exercise on Data Integration		
16	Responsible Lecturer: Prof. Dr. Gottfried Vossen		Department: School of Business and Economics		
	Misc.:				

Information Systems Development: Advanced Concepts in Software Engineering

Mod	dule Title english:	Information Systems Development: Advanced Concepts in Software Engineering				
Cou	rse Program:	Master Information Systems				
1	Module No: ISD3	State: Elective	Language of Instruction: English			
2	Turn: each summer semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	
	Module Structure:					

No	Туре	Course	State	Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Advanced Concepts in Software Engineering	Compulsory	30 h (2 CH)	45
2	Exercise	Exercise on Advanced Concepts in Software Engineering	Compulsory	30 h (2 CH)	75

Module Profile:

3

Purpose of the module/integration into curriculum:

It is assumed that the students have some experience with programming and software development as they are taught in the bachelor program. The learned concepts and techniques are (often) helpful in the master thesis.

Course content:

The course consists of lectures providing the theoretical background of topical software-engineering concepts such as enterprise application integration, model-driven software development, web applications, microservices, and container virtualization. Moreover, it consists of 5 assignments where these concepts are applied to develop and connect example information system.

	Themes	Learning objectives
4	Enterprise Application Integration (EAI) concepts	Knowing and being able to evaluate typical EAI topologies and possible integration layers. Knowing corresponding communication paradigms.
	Web applications and Middleware	Knowing typical concepts and frameworks for the development of enterprise applications. Being able to use these frameworks for developing enterprise applications.
	Web Services	Being able to connect existing enterprise applications using webservice technologies.
	Message-oriented Middleware	Being able to connect enterprise applications using message-oriented middleware.
	Model-Driven Software Development (MDSD)	Understanding and being able to apply the main concepts of MDSD such as automatically transforming a model to e.g. executable code as well as meta-modeling and domain-specific languages.

	Micr	oservices	architectures.Being	advantages and disa gable to design resili nicroservice archited	ient and s		
	Cont	ainer Virtualization	Knowing recent con able to apply them.		ystem virt	ualization and being	
5	Learning outcomes: Academic: The students learn to know and apply current integration technologies for software systems within a company and across collaborating enterprises. Moreover, they learn how to increase the productivity of software development by automatically transforming abstract models to desired artifacts such as executable code. Finally, they learn to know and apply architecture concepts for resilient and scalable information systems. Soft skills: The assignments are solved in teams of about 5 students. Thus, the students are trained to collaborate in teams.						
6	Description of possible electives within the modules: none						
7	Exam	ination: Examinatio	ns for every part of th	he module			
	Relevant Work: No Number and Type; Connection to Course		Connection to	Duration		Part of final mark in	
8	1	Written exam (N° 1)		120 min.		70 %	
	2	Software artifacts(4 (N° 2)	parts) in groups	Ca 20 pages/part, 45 code lines/code page		30 %	
9	Study	/ Work: none					
10	The c	quisites for Credit Por redit points will be g leted.		ant work and study v	vork have	been successfully	
	CP Assignment:						
	•		No 1	No 1			
11	Pres	ence	No 2		1.00 CP		
	Rele	vant Work	No 1		2.50 CP		
			No 2		1.50 CP		
	Tota	<u> </u>			6 CP		
12		ht of the module gra	de for the overall gra	ade:			
13	Modu none	ıle Prerequisites:		_			

14	Presence: Presence is strongly recommended to warrant learning success				
	Mobility/Acknowledgement:				
	I lise of the module for other course programs		Business Administration, Master ion Systems		
15	English translation of module components	No 1: Advanced Concepts in Software Engineering			
	from section 3	No 2: Exercise on Advanced Concepts in Software Engineering			
16	Responsible Lecturer: Prof. Dr. Herbert Kuchen		Department: School of Business and Economics		
17	Misc.: The module can be taken as part of the track Information Systems Development or as an elective.				

Logistics, Production and Retail: Supply Chain Management

Мо	dule Title english:	Logistics, Production and Retail: Supply Chain Management				
Cou	rse Program:	Master Information Systems				
1	Module No: LPR1	State: Elective	Language of Instruction: English			
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Module Structure:

No	Туре	Course	State	Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Supply Chain Management	Compulsory	30 h (2 CH)	60
2	Exercise	Exercise on Supply Chain Management	Compulsory	30 h (2 CH)	60

Module Profile:

Purpose of the module/integration into curriculum:

Supply chains focus onto value creation networks of often legally independent companies that are tightly connected via different linkages or flows (e.g. material, information and financial flows). The course "Supply Chain Management (SCM)" elaborates those linkages across companies and specifically addresses issues of supply chain design, planning, coordination and optimization. Collaborative process concepts integrating the different business activities of the companies in the supply chain are investigated in detail. For each lectured topic related IT-Systems are introduced and their application in Supply Chain Management is discussed. Furthermore, the different modes of usage and architectures of Information Systems in Supply Chain Management are examined. Case studies carried out with the help of SCM tools currently used in practice underline the practical aspects of the contents taught.

Course content:

The production and retail module studies companies in the context of the intra- and interorganizational processes of all acting companies in a supply chain. The Supply Chain Management course encompasses topics like the principle tasks of designing, planning, and executing a supply chain under the usage of different modelling approaches and related information systems. It complements the other industry-driven courses of the module (Production Planning and Control, Retail) by introducing general Supply Chain concepts interlinking the activities of retail and production. The adaption of these concepts to specific industry sectors is part of the other courses of the track.

Themes	Learning objectives
Basic Principles of Supply Chain Management	To learn about basic terms, ideas, challenges and targets of Supply Chain Management.
Supply Chain Modeling	To learn about the basic elements to be modeled in a supply chain. To understand the intention and objectives of modeling supply chains and to be able to create such a model.

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	<u> </u>						
	Supp	oly Chain Design		oout the relevant ir and to understand			or supply chain design I principles.
	Supp Plan	oly Chain ning	being used production	ks of supply chain planning and the methods nning, network planning, supply planning, istribution planning as well as the objectives promising.			
Supply Chain Execution To learn about the scope of supply chain execution. To ge understanding of the basic concepts and functions of Sup Management. IT-Systems in Supply Chain Management To get an idea of features and characteristics of different systems.							
					different SCM software		
6	Learning outcomes: Academic: The course's major academic outcome is a broad and profound understanding of supply chains' challenges, targets, and related concepts for managing supply chain activities. Furthermore, a profound knowledge in actual methods and concepts of supply chain design, modeling, planning, and optimization should be obtained. Soft skills: Students are encouraged to prepare the contents of the lecture and exercise and to perform follow-up work in teams. This is supported by a Learnweb discussion forum that is guided by the chair. Case studies that accompany the lecture especially in Supply Chain Design and Planning provide the opportunity for students to get acquainted to selected SCM tools and to apply them in a realistic scenario. The case studies are organized as group work and thus promote the students' ability to cooperate in teams. The intermediary results are presented regularly by the groups in front of the complete audience. This enhances the students' presentation and discussion skills. Description of possible electives within the modules: The module can be taken as part of the track Logistics, Production and Retail or as an elective.						
7	Exam	ination: Examina	tions for eve	ery part of the mod	ule		
	Relev	Examination: Examinations for every part of the module Relevant Work:					
8		ant work:					
	No	Number and Typ	e; Connectio	on to Course	Duration		Part of final mark in %
		İ		on to Course	Duration 120 min.		Part of final mark in %
	No 1	Number and Typ Final written exa	m				100 %
	No 1	Number and Typ Final written exa	m			D	
9	No 1	Number and Typ Final written exa / Work: Number and Typ	m e; Connectio		120 min.	ı a	100 %
9	No 1 Study No	Number and Typ Final written exact / Work: Number and Typ Case Study: Sup	m e; Connectio ply Chain De	on to Course	120 min.	a a	uration pprox. 40 pages &
9	No 1 Study No 1 Prere The c	Number and Typ Final written exam / Work: Number and Typ Case Study: Sup Case Study: Sup presentation quisites for Credit	e; Connection ply Chain Do ply Chain Pl t Points:	on to Course esign (in group) an anning (in group) a	d presentation	a a a a a	uration pprox. 40 pages & pprox. 30 min. pprox. 40 pages &
	No 1 Study No 1 2 Prere The c comp	Number and Typ Final written example of the second of the	e; Connection ply Chain Do ply Chain Pl t Points:	on to Course esign (in group) an anning (in group) a	d presentation	a a a a a	uration pprox. 40 pages & pprox. 30 min. pprox. 40 pages & pprox. 40 pages & pprox. 30 min.

	Presence	No 2			1.00 CP		
	Relevant Work	No 1			2.00 CP		
		No 1			1.00 CP		
	Study Work	No 2			1.00 CP		
	Total				6 CP		
12	Weight of the module grade for the 6/120 (5%)	dule grade for the overall grade:					
13	Module Prerequisites:						
14	Presence: Presence is strongly recommended to warrant learning success						
	Mobility/Acknowledgement:						
15	Use of the module for other course programs			Master Business Administration, Master Information Systems			
	English translation of module con	nponents from	No 1: Supply Chain Management				
	section 3		No 2	: Exercise	on Supply Chain Management		
16	Responsible Lecturer: Prof. DrIng. Bernd Hellingrath			Departn School	nent: of Business and Economics		
17	Misc.:						

	lule Tit	le english:		Logistics, Production	and Retail: Produc	tion Planning	and Control			
Course Program: Module No: LPR2				Master Information S	Systems					
1	Module No: LPR2			State: Elective	Language of Instr	uction: Englis	h			
2	Turn: each winter semester			Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180			
	Module Structure:					ļ ₆	l			
	No	Туре	Co	urse		State	Workload	(h) Self-		
3							Presence (h + CH)	Study (h)		
	1	Lecture	Pro	duction Planning and	Control	Compulsory	30 h (2 CH)	60		
	2	Exercise		ercise on Production Pl ntrol	anning and	Compulsory	30 h (2 CH)	60		
	such as product offering planning, production so students learn to apply students learn about cu			reprehensive overview of typical tasks in production planning and control, g planning, product costing, demand forecasting, materials requirements heduling, and inventory and capacity management. Moreover, the the methods and techniques to perform these tasks. Additionally, the rrent trends and issues in PPC and how to assess them critically.						
4				Learning objectives To understand and be able to apply the concepts related to demand						
	Prod	uction Plannir			ls requirements pla	concepts related to demand anning, inventory control and				
	Prod	uction Control		To understand and be control.	able to apply the co	e concepts related to production				
	IT Sy	stems for PPC			understand how IT (Information Technology) systems can support oduction planning and control and to gain hands-on experience with an terprise Resource Planning (ERP) system.					
					nd control and to ga	ain hands-on		rt		
	Data PPC	Modeling in			nd control and to ga anning (ERP) syster lerlying data structu	ain hands-on m. ures and infor	experience v	rt		

	unde their techn Soft s The e	tudents understand the PPC rstand the cross-department knowledge in process and daiques to perform various PPC skills: xercises comprise both indivove their capabilities in group	al integration of pata modeling. The casks.	oroce ey ar eam-	esses and data e able to apply based group w	structures. They deepen the methods and ork. The students apply and	
6	The m	ription of possible electives we nodule can be taken as part on the electives a minimum of	of the track Logis	tics,		I Retail or as an elective.	
7	Exam	ination: Final Module Exam					
8	Relev No	ant Work: Number and Type; Connecti	on to Course	0	uration	Part of final mark in %	
	1	Final Written Exam		1	20 min.	100 %	
9	Study No	y Work: Number and Type; Connecti	on to Course			Duration	
9	1	Case study work (in groups, submission)	presentation an	d wr	tten	30 min., 5 pages	
10	The c	quisites for Credit Points: redit points will be granted a leted.	fter all relevant v	vork	and study work	have been successfully	
	CP As	ssignment:	I			_	
	Pres	ence				o CP	
11	Rele	vant Work	No 2			o CP o CP	
		ly Work	-			o CP	
	Tota	l	6 CP				
12	Weig	ht of the module grade for th	e overall grade:	6/12	o (5%)		
13	Modu	ıle Prerequisites: none					
14	Prese	ence: Presence is strongly rec	ommended to w	arrar	t learning succ	ess	
	Mobi	lity/Acknowledgement:		1			
	Use	of the module for other cours	se programs		ster Business A rmation Syster	dministration, Master ns	
15	Engl	ish translation of module co	mponents from	No	ı: Production P	lanning and Control	
		ion 3	•	No : Con		Production Planning and	
16		onsible Lecturer: Dr. Dr. h.c. Dr. h.c. Jörg Becke	er		Department School of Bi	: usiness and Economics	

17 Misc.:

Logistics, Production and Retail: Retail

Mod	dule Title english:	Logistics, Production and Retail: Retail				
Cou	rse Program:	Master Information Systems				
1	Module No: LPR3	State: Elective	Language of Instruction: English			
2	Turn: each summer semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Module Structure:

No	Туре	Course	State	Workload (h)		
				Presence (h + CH)	Self- Study (h)	
1	Lecture	Retail	Compulsory	30 h (2 CH)	60	
2	Lecture	Exercise on Retail	Compulsory	30 h (2 CH)	60	

Module Profile:

Purpose of the module/integration into curriculum:

The course is complementary to the courses Production Planning and Control and Supply Chain Management and Logistics.

Course content:

The retail course as part of the production and retail module presents retail as an important sector for the economy. It uses reference models for retail as a framework to introduce retail business processes and data structures. To highlight the integration of business processes and information technology, the ERP system selection and implementation process is elaborated. The introduction of retail analytics and omni channel retailing represents the ongoing evolution of the retail sector to the digital age. Process and data modeling techniques are applied throughout the lecture and accompanying exercises.

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Themes	Learning objectives			
Business Processes in Retail	The students get to know reference models for retail. They understand core processes, coordination processes, support processes and their integration.			
Process Modeling	The students are able to model business processes in retail, especially with the help of domain specific, semantic modeling languages.			
Data Modeling	The students are able to model data structures and get to know selected data models in retail.			
ERP-Systems for Retail	The students understand the importance of ERP-systems in retail and their selection and implementation process.			
Smart Retail	The students get to know recent developments in the retail sector (e.g. retail analytics). They learn how these developments can be used to enhance existing or create new business models.			

Learning outcomes: Academic: The students recognize information systems and the underlying business processes in retail as an important sector for the economy. They understand the cross-departmental integration of business processes and how retail companies are embedded in the value chain. They deepen their knowledge in process and data modeling and are able to apply methods and techniques in 5 various application scenarios. Additionally, the students understand how the retail sector has and is continuously changing and which benefits arise from these changes. The exercises comprise both individual work and team-based group work. The students apply and improve their capabilities in team work, presentation and discussion. Description of possible electives within the modules: 6 The module can be taken as part of the track Logistics, Production and Retail or as an elective. Within the electives a minimum of 2 seminars has to be taken. **Examination:** Final Module Exam **Relevant Work: Duration** Part of final mark in % **Number and Type; Connection to Course** 8 120 min. Final written exam 100 % **Study Work:** Duration No **Number and Type; Connection to Course** Case study work (in groups, presentation and written 30 minutes & 5 pages 9 submission) Guest lecture summary (in groups, presentation) 5 minutes **Prerequisites for Credit Points:** The credit points will be granted after all relevant work and study work have been successfully 10 completed. **CP Assignment:** No 1 1.00 CP **Presence** No 2 1.00 CP 11 **Relevant Work** No 1 2.50 CP No 1 2.00 CP **Study Work** 0.50 CP No 2 7 CP Total Weight of the module grade for the overall grade: 12 6/120 (5%) **Module Prerequisites:** 13 none Presence: 14 Presence is highly recommended.

	Mobility/Acknowledgement:					
15	Use of the module for other course programs	Master Business Administration, Master Information Systems				
	English translation of module components from section 3		Retail			
			: Exercise on Retail			
16	Responsible Lecturer: Prof. Dr. Dr. h.c. Dr. h.c. Jörg Becker		Department: School of Business and Economics			
17	Misc.:					

Innovation Management

Module Title english:		Innovation Management				
Course Program:		Master Information Systems				
1	Module No: MCMo5	State: Compulsory	Language of Instruction: English			
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180	

Module Structure:

No	Туре	Course	State	Workload	(h)
				Presence (h + CH)	Self- Study (h)
1	Lecture	Innovation Management	Compulsory	30 h (2 CH)	60
2	Exercise	Tutorial Innovation Management	Compulsory	30 h (2 CH)	60

Module Profile:

Purpose of the module/integration into curriculum:

This course teaches how to create value through products and services (value equity) by (technology-driven) innovation in both entrepreneurial and established firms. We examine innovation-based strategies as a source of competitive advantage and then examine how to build organizations that excel at identifying, building and commercializing technological innovations. The course examines how entrepreneurs can shape their firms so that they continuously build and commercialize valuable innovations. Many of the examples also focus on how established firms can become more entrepreneurial in their approach to innovation.

Course content:

Main topics:

- Innovation process
- Creating an organizational environment that rewards innovation and entrepreneurship
- Internal and external sources of innovation
- Structuring entrepreneurial and established organizations for effective innovation Course objective: It is the objective of this course that students learn the main issues in innovation management in order to successfully create value through products and services (value equity) in both entrepreneurial and established firms.

Learning outcomes:

Academic:

After following this course, you are able to...

- Discuss current topics in strategic innovation management,
- Understand the innovation process, several organizational structures to foster innovations, and the challenges of innovation in large and small firms,
- Apply these concepts directly to real world situations.

Soft skills:

- Case discussions improve your problem-solving skills.
- Critical discussion of research allows you improving your argumentation and communication skills
- The group work helps you to improve your collaboration and presentation skills.

4

5

5	none									
Examination: Final module exam										
		ant Work:		1_						
3	No 1	Number and Type; Connective Written report (group work was a second to be seen and the second to be seen as a second to b		-	ration ximum of 50	Part of final mark in %				
	1	Witten Tepoit (group work v	when mulcateu)	pag	_	100 %				
	Study	Study Work:								
,	No	Number and Type; Connect		Duration						
	1	none								
0	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.									
	CP As	ssignment:								
	Presence		No 1 1		1.00	.oo CP				
1			No 2		1.00					
	Relevant Work		No 1		4.00	o CP				
	Study Work		No 1		-					
	Tota	l			6 CF) 				
2		ht of the module grade for tho (5%)	e overall grade:							
3	Modu none	ıle Prerequisites:								
4	Prese Prese	ence: ence is strongly recommende	d to warrant learr	ing su	iccess.					
	Mobi	lity/Acknowledgement:								
5	Use	of the module for other cours	se programs	Mast	er Business A	dministration				
		ish translation of module co	mponents from	No 1:	Innovation M	anagement				
	sect	ion 3		No 2: Tutorial Innovation Management						
6		onsible Lecturer: ssor Dr. Thorsten Wiesel			Department University o Business ar	f Münster, School of				
	Misc.: Business and Economics									

Customer Relationship Management and Direct Markteting

Мо	dule Title english:	Customer Relationship Management and Direct Markteting					
Cou	rse Program:	Master Information Sy	Master Information Systems				
1	Module No: MCMo7	State: Compulsory	Language of Instruction: English				
2	Turn: each winter semester	Duration: 1 semester	Semester: 1 or 2 CP: 6 Workload (h):				

Module Structure:

No	Туре	Course	State	Workload	(h)
			Presence (h + CH)		Self- Study (h)
1	Lecture	Customer Relationship Management	Compulsory	30 h (2 CH)	60
2	Exercise	Tutorial on Customer Relationship Management and Direct Marketing	Compulsory	30 h (2 CH)	60

Module Profile:

3

Course content:

This course focuses on how companies can design and influence customer relationships and thereby acquire relationship equity. Therefore, the conceptual and methodical foundations of customer relationship management (CRM) and direct marketing are introduced. The students will obtain a broad overview of the planning, implementation, and integration of various direct marketing media. Moreover, the application of modern market research tools in the field of CRM and direct marketing are discussed. Further emphasis is placed on value-oriented planning and optimization of direct marketing activities and the monitoring of its success.

Main topics: The course will cover the following topics:

- Introduction to foundations of CRM and direct marketing
- Characteristics of direct marketing media
- Interplay of customer relationship management and direct marketing
- Value orientation of direct marketing
- Direct marketing controlling and accountability

Course objective: The lecture aims to provide students with an advanced understanding of customer relationship management and direct marketing. Thereby, the lecture covers the opportunities and challenges of both topics in a data driven company.

Learning outcomes:

Academic:

- Students are able to value customers with different approaches (Customer Lifetime Value (CLV), Recency, Frequency, Monetary Value (RFM))
- Students are able to plan and execute direct marketing campaigns
- Students learn how to handle the data available in companies (legal, methodological, strategic)

Soft skills:

5

- Cooperation and teamwork: part of the assignments is done via group work
- Presentation skills: assignments have to be presented in front of the class
- Communication skills: tutorials include discussion sessions

6 Description of possible electives within the modules: none

7	Exam	nination: Examinations for ev	ery part o	f the m	nodule							
	Relev	/ant Work:		Ī				1				
	No Number and Type; Connection to Co			urse Duration			Part of final mark in %					
8	1	Written assignments and presentation (in group) (N° 2)			1 x 5 pages, 1 x 15 pages, 2 x 20 min.			33 %				
	2	Written exam (N° 1)			90 min.			67 %				
9	Stud	y Work: none										
10	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.											
	CP Assignment:											
	Proc	sence	No 1				1.00 CP					
11		ociice	No 2		1.00 CP							
	Rele	Relevant Work No 2					1.50 CP					
	Tota	Total					2.50 CP 6 CP					
12		tht of the module grade for tho (5%)	ne overall g	grade:	:							
13	Modi	ule Prerequisites:										
14	Prese	ence: ence is strongly recommende	d to warra	nt lear	rning su	ccess.						
	Mobi	lity/Acknowledgement:										
15		of the module for other cours	se	Master Business Administration								
	Eng	lish translation of module		No 1:	Custom	er Relatio	onship M	anagement				
		components from section 3			No 2: Tutorial on Customer Relationship Management and Direct Marketing							
16		onsible Lecturer: essor Dr. Manfred Krafft				Department: School of Business and Economics						
17	Misc	<u></u>					Misc.:					

Ma							
MIO	dule Tit	le english:	Channel Management				
Cou	ırse Pro	gram:	Master Information Sy	stems			
1	Modu	ıle No: MCMo9	State: Compulsory	State: Compulsory Language of Instruction: Eng			
2	Turn: seme	each summer ster	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180
	Modu	le Structure:					
	No	Туре	Course		State	Workload	(h)
3						Presence (h + CH)	Self- Study (h)
	1	Lecture + Exercise	Channel Management		Compulsory	60 h (4 CH)	120
	 management, we discuss challenges in coordinating multiple channels of communication and distribution. We discuss how channel design and coordination affect firm performance. Course content: Main topics: Challenges of integrated channel management Effectiveness of communication and distribution channels along the customer journey Course objective: It is the objective of this course to enable students to elaborate on the concept of integrated channel management and to discuss the impact of channels on customer behavior 						
4	Cours Main Cours Cours of into	bution. We discus se content: topics: challenges of integ ffectiveness of co se objective: It is t	s how channel design an grated channel managen mmunication and distrib the objective of this cour	nating multiple chan nd coordination aff nent oution channels alo rse to enable stude	nnels of comi ect firm perfo ng the custo nts to elabor	ormance. mer journey ate on the c	and oncep
5	Cours Main Cours Cours of interes and fi Learn Acade After D Soft s C C	bution. We discus be content: topics: thallenges of integrated channel marm performnace. In the content of the	grated channel managen mmunication and distrib the objective of this coun nanagement and to disco see, you are able to oncept of integrated chan can create value through to of channels on custome as improve your problem of research allows stude	nating multiple chaind coordination afford coordination afforment bution channels aloose to enable stude uss the impact of comment of comment of the coordination and critical coordination and critical coordinations are behavior and critical coordinations and critical coordinations are solving skills.	nnels of comiect firm performs the custon nts to elaborate annels on commentations argumentation of the composition of the comp	munication ormance. mer journey ate on the customer belonement,	oncep navior
5	Cours Main Cours Cours of into and fi Learn Acade After Do Soft s Cours	bution. We discus be content: topics: challenges of integrated channel mirm performnace. ing outcomes: emic: following the courtaborate on the content on the content on the content of t	grated channel managen mmunication and distrib the objective of this coun nanagement and to disco ese, you are able to oncept of integrated chan can create value through the of channels on custome ess improve your problem of research allows stude tells.	nating multiple channel coordination afforment pution channels aloose to enable stude uss the impact of comment of the color of the col	nnels of comiect firm performs the custon nts to elaborate annels on commentations argumentation of the composition of the comp	munication ormance. mer journey ate on the customer belonement,	oncep
5	Cours Main Cours Cours of interact and fi Learn Acade After Do Co	bution. We discus be content: topics: challenges of integrated channel make the performance. In the group work he group work he group work he content to the gro	grated channel managen mmunication and distribute objective of this coun nanagement and to disco ese, you are able to oncept of integrated chancan create value through of channels on custome is improve your problem of research allows students.	nent nent nent nution channels alcorse to enable stude uss the impact of comment an integrated chan er behavior and crit -solving skills. ents improving their etheir collaboration adules:	nnels of comiect firm performs the custon nts to elaborate annels on commentations argumentation of the composition of the comp	munication ormance. mer journey ate on the customer belonement,	oncep
5	Cours Main Cours Main Cours of inte and fi Learn Acade After E D Soft s C C T Description	bution. We discus be content: topics: challenges of integrated channel make the performance. In the group work he group work he group work he content to the gro	grated channel managen mmunication and distribute objective of this countries and to disconnect of integrated character of channels on customers improve your problem of research allows students. The electives within the more electives within the electives within the more electives within the more electives within the electives wit	nent nent nent nution channels alcorse to enable stude uss the impact of comment an integrated chan er behavior and crit -solving skills. ents improving their etheir collaboration adules:	nnels of comiect firm performation of the custon of the cu	munication ormance. mer journey ate on the customer belonement,	oncep navior

	-								
	1	Written assignments and programming (in group) (N° 2)	resentations	2 X 10 1 X 15 r	pages an nin.	id und	33 %		
	2	Written exam (N° 1)		90 min	1.		67 %		
9	Stud	y Work: none							
10	The	equisites for Credit Points: credit points will be granted a pleted.	fter all relevant v	vork an	d study w	vork hav	e been successfully		
	CP Assignment:								
	Pre	sence	No 1			2.00 CP			
11	Relevant Work		No 1			1.50 CP			
		evant work	No 2	12		2.50 CP			
	Total				6 CP				
12		ght of the module grade for th o (5%)	e overall grade:						
13	Mod none	ule Prerequisites:							
14		ence: ence is strongly recommended	d to warrant lear	ning su	ccess.				
	Mob	ility/Acknowledgement:							
15	Use	of the module for other cours	se programs	Master Business Administration, Master Information Systems			nistration, Master		
	_	lish translation of module co tion 3	No 1: Channel Management						
16		oonsible Lecturer: ionja Gensler-Wiesel		Department: School of Business and Economics			ness and Economics		
17	Misc	L:				_			

		lules (Semina								
Mo	dule Tit	le english:	Elective Modules (S	eminar)						
Cou	ırse Pro	gram:	Master Information	Master Information Systems						
1	Modu EMSe	l e No: m1-6	State: Elective	Language of Instructi	on: English					
2	Turn: seme		Duration: 1 semester	Semester: 1 or 2 or 3 or 4	CP: 6	Workload (i	h): 180			
	Modu	le Structure:								
	No	Туре	Course		State	Workload	(h)			
3						Presence (h + CH)	Self- Study (h)			
	1	Seminar	Elective Modules		Compulsory	60 h (4 CH)	120			
4	There Cours The e in sm elabo the to earlie Stru Moo Net Bea ERP Info	fore, knowled to content: lective seminall groups of the content o	Analysis ion - Layout and Percept n ndustry, retail and suppl	ertaining track(s) is strong t arise from recent resea gives a seminar talk and nge from term to term. T bjectives are changing f tion	ngly recomme arch. They are d, to this end, To follow rece	ended. usually org writes a se nt developn	anized minar nents,			
5	Acade The si Soft si Stude	tudents deep skills: ents improve t	s: en their knowledge in sp their skills in acquiring p topic, group working ab	orofound scientific know	vledge and pr	resentation.				
6			sible electives within th s a minimum of 2 semin							
7	Exam	ination: Exar	ninations for every part	of the module						
8	Relev No	ant Work: Number and	Type; Connection to Co	urse Duration	Part	of final mai	k in %			

	1	Seminar elaboration (acade presentation	mic paper) and		20 pages, onutes	ca 60	100 %			
9	Study	y Work: none								
10	The c	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.								
	CP As	CP Assignment:								
11	Pres	ence	No 1			2.00 Cl	P			
	Relevant Work No 1					4.00 CI	P			
	Total				6 CP					
12		ht of the module grade for th	e overall grade:							
13	Modu none	ıle Prerequisites:								
14	Prese	ence: ence is strongly recommende	d to warrant learn	ing	success					
	Mobi	lity/Acknowledgement:								
15	Use	of the module for other cours	se programs	Ma	ster Inform	ation S	ystems			
		English translation of module components from section 3			No 1: Elective Modules					
16		onsible Lecturer: Dr. Stefan Klein			Departme School of		ss and Economics			
17	Misc	Misc.:								

Selected Chapters in Information Systems

Mod	dule Tit	le english:	Selected C	hapters in	Informati	on Systems				
Cou	rse Pro	gram:	Master Info	ormation S	Systems					
1	Modu 5	ı le No: SCIS 1 -	State: Elective		Language of Instruction: English					
2	Turn:	irregularly	Duration: 1 semester		Semeste 3	er: 1 or 2 or	CP: 6	Workload (Workload (h): 180	
	Modu	ıle Structure:								
	No	Туре		Course			State	Workload	(h)	
3								Presence (h + CH)	Self- Study (h)	
	1	Lecture (with in exercises)	tegrade	Lecture ":	Selected (Chapters in	Compulso	ry 60 h (4 CH)	120	
4	Systems or being located in the border areas of Information Systems and Computer Science/Mathematics/Business Administration. This Module integrates lectures which are offered only once or at irregular intervals, e.g., by guest lecturers or by other lecturers who are members of the institute only for a limited time. Contents of the lecture are announced in the (electronic) university calendar and are usually introduced during the seminar-presentation which takes place in the preceding term.									
5	Acade The s techn	ning outcomes: emic: tudents gain dee niques associate skills: tudents learn to	d with the to	pic to spe	cific probl	em settings.		ms. They can	apply	
6		ription of possib n the electives a				oe taken.				
7	Exam	ination: Final M	odule Exam							
8	Relev No	ant Work: Number and Ty	pe; Connect	ion to Cou	rse	Duration	Ouration Par		c in %	
	1	Final written ex	am	m up to 120		up to 120 m	in. 100	%		
9	Study	y Work: none								
10	The c	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.								

	CP Assignment:							
11	Presence	No 1		2.00 CP				
11	Relevant Work	No 1			4.00 CP			
	Total			6 CP				
12	Weight of the module grade for the overall grade: 6/120 (5%)							
13	Module Prerequisites: none							
14	Presence: Presence is strongly recommended to warrant learning success							
	Mobility/Acknowledgement:							
15	Use of the module for other cours	se programs	Ма	aster Information Systems				
	_	English translation of module components from N			No 1: Lecture "Selected Chapters in IS"			
	section 3			No 2: Exercise "Selected Chapters in IS"				
16	Responsible Lecturer: Prof. Dr. Dr. h.c. Dr. h.c. Jörg Becker, Prof. DrIng. Bernd Hellingrath, Prof. Dr. Stefan Klein, Prof. Dr. Herbert Kuchen, Prof. Dr. Heike Trautmann, Prof. Dr. Gottfried Vossen			Department: University of Münster School of Business and Economics				
17	Misc.:							

Selected Chapters in Business Administration

Module Title english: Selected Chapters in Business Administration								
Course Program: Master Information Systems								
1	Module No: EM- SCBA	State: Elective	Language of Instruction: English					
2	Turn: each semester	Duration: 1 semester	Semester: 1 or 2 or 3 or 4	CP: 6	Workload (h): 180			

	No	Туре	Course	State	Workload (h)		
					Presence (h + CH)	Self- Study (h)	
3	1	Lecture	Selected Chapters in Business Administration Concerning the specific modules see module descriptions for the Master of Business Administration	Compulsory	30 h (2 CH)	60	
	2	Exercise	Exercise on Selected Chapters in Business Administration Concerning the specific modules see module descriptions for the Master of Business Administration	Compulsory	30 h (2 CH)	60	

Module Profile:

Purpose of the module/integration into curriculum:

to be found in the descriptions of the modules mentioned below.

Course content:

Choosing a 6CP Lecture with Exercises in the "Minor" programs of the Master program of Business Administration offered by the department of Business Administration, namely: "Basis Accounting", "Basis Finance", "Basis Management" and "Basis Marketing". In particular, the following Modules can be studied:

ACMo1 Strategic Management Accounting

ACMo2 Financial Accounting

ACMo3 Internationale Unternehmensbesteuerung

ACMo4 Internationales Controlling

4 ACMo7 Unternehmensanalyse und –bewertung

ACMo8 Unternehmensbesteuerung I

ACMo9 Ausgewählte Kapitel des Accounting

ACM10 Abschlussprüfung

ACM11 Spezialfragen der Rechnungslegung nach HGB und IFRS

ACM12 Ausgewählte Kapitel des Accounting II

ACM₁₃ Anwendungen des Controlling

ACM14 IFRS und Controlling

ACM16 Vertiefungsmodul Internationale Rechnungslegung

ACM₁₇ Unternehmensbesteuerung II

FCMo₁ Introduction to Finance

FCMo2 Behavioral Finance

FCMo₃ Derivatives I

	FCMo4 Finanzintermeidation I FCMo5 Advanced Corporate Finance FCMo6 Corporate Governance and Responsible Business Practices FCMo7 Derivatives II FCMo8 Finanzintermediation II FCM13 Ausgewählte Kapitel Finance I CfM13 Organisation CfM14 Strategisches Management CfM15 Personal CfM16 Management MCMo2 Industrial Marketing MCMo3 Consumer Marketing MCMo4 Media Marketing MCMo8 Direct Marketing MCMo9 Sales Management MCM10 Electronic Commerce MCM11 Advanced Media Marketing Course content can be found in the descriptions of the above mentioned modules. Preconditions defined for the selected modules have to be obeyed.						
5	Acad To be Soft	skills:	f the above mentioned mode				
6		ription of possible electives in the electives a minimum o	within the modules: of 2 seminars has to be taken	1.			
7	Exam	nination: Examinations for e	very part of the module				
	Rele	vant Work:					
8	No	Number and Type; Connect	tion to Course	Duration	Part of final mark in %		
	1	See module descriptions w of the department of Busin					
9	Stud	y Work: none					
10	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.						
	CP A	ssignment:					
	D		No 1	1.00 CP			
11	Pres	sence	No 2	1.00 CP			
	Rele	evant Work	No 1	4.00 CP	4.00 CP		
	Total 4.00 CF						

12	Weight of the module grade for the overall grade: 6/120 (5%)				
13	Module Prerequisites: none				
14	Presence: Presence is strongly recommended to warrant learning success				
	Mobility/Acknowledgement:				
	Use of the module for other course programs	Master Information Systems			
15	English translation of module components	No 1: Selected Chapters in Business Administration			
	from section 3	No 2: Exercise on Selected Chapters in Business Administration			
16	Responsible Lecturer: Prof. Dr. Heike Trautmann		Department: School of Business and Economics		
17	Misc.:				

Selected Chapters in Computer Science

Mod	dule Tit	le english:	Selected C	hapters in	Compute	r Science			
Cou	rse Pro	gram:	Master Info	ormation S	Systems				
1	Modu 1-5	ıle No: SCCS	State: Elec	tive	Languag	e of Instructi	on: English		
2	Turn:	each ester	Duration: 1 semester		Semeste or 4	e r: 1 or 2 or 3	CP: 6	Workload (I	1): 180
	Module Structure:								
	No	Туре		Course			State	Workload	(h)
3								Presence (h + CH)	Self- Study (h)
	1	Lecture (with i exercises	ntegrated		l Chapters er Science	in	Compulsory	60 h (4 CH)	120
4	Cours Cours Choo	ose of the modu se content can b se content: sing Lecture + E	e found in the exercise-mod	he descrip Jules with	otions of th	the Master p	rogram of the	e departmen	
	Cours Choo Comp modu Learn Acad to be Soft s	se content can be content: sing Lecture + Eouter Science. Cales. ning outcomes: emic: found in the deskills:	e found in the exercise-mod course conteres	he descripules with the can be	otions of the General	the Master p ne description	rogram of the	e departmen	
5	Cours Choo Comp modu Learn Acad to be Soft s to be	se content can be content: sing Lecture + Eduter Science. Cales. ning outcomes: emic: found in the de	exercise-mod course conterest of the electives	ules with nt can be	otions of the 6 CP from found in the mention e mention e modules	the Master pose description ed modules ed modules	rogram of the	e departmen	
5 6 7	Cours Choo Comp modu Learn Acad to be Soft s to be Description	se content can be content: sing Lecture + Eduter Science. Cales. ning outcomes: emic: found in the deskills: found in the deskills:	exercise-mod course conterest excriptions of the electives a minimum of	the descrip lules with nt can be f the abov within th of 2 semin	otions of the 6 CP from found in the mention e mention e modules	the Master pose description ed modules ed modules	rogram of the	e departmen	
5 6 7	Cours Choo Comp modu Learn Acad to be Soft s to be Desci Withi	se content can be content: sing Lecture + Eouter Science. Cales. ning outcomes: emic: found in the deskills: found in the deription of possion the electives	exercise-mod course conteres excriptions of the electives a minimum of the Module Exam	the descrip lules with nt can be f the abov within th of 2 semin	e mentione e modules ars has to	the Master pose description ed modules ed modules	rogram of the	e departmen	d
5	Cours Choo Comp modu Learn Acad to be Soft s to be Descrivithi Exam	se content can be content: sing Lecture + Eouter Science. Cales. ning outcomes: emic: found in the deskills: found in the deskills: n the electives nination: Final A	exercise-mod course content excriptions of the electives a minimum of the Module Exam	the descrip lules with nt can be f the abov within th of 2 semin	e mentione e modules ars has to	the Master predestription ed modules ed modules be taken.	rogram of the	e departmen ve mentione	d
6 7 8	Cours Choo Comp modu Learn Acad to be Soft s to be Exam Relev No 1	se content can be content: sing Lecture + Ecuter Science. Cales. ning outcomes: emic: found in the deskills: found in the deskills: n the electives nination: Final Acan want Work: Number and T	exercise-mod course content excriptions of the electives a minimum of the Module Exam	the descrip lules with nt can be f the abov within th of 2 semin	e mentione e modules ars has to	the Master predeser description descriptio	rogram of the abo	e departmen ve mentione	d
5 6 7 8	Cours Choo Comp modu Learn Acad to be Soft s to be Pesci Withi Exam Relev No 1 Study	se content can be content: sing Lecture + Eouter Science. Cales. ning outcomes: emic: found in the deskills: found in the deskills: n the electives ination: Final Market Work: Number and T Final written e	exercise-mod course content exercises a content exerciptions of the electives a minimum of the electives are electives and the electives are electives are electives are electives and the electives are elec	tion to Co	e mentione e mentione ars has to	the Master pre description ed modules ed modules be taken. Duration 120 min.	Part	e departmen ve mentione	in %
5	Cours Choo Comp modu Learn Acad to be Soft s to be Prere The c comp	se content can be content: sing Lecture + Eduter Science. Cales. sing outcomes: emic: found in the deskills: found in the deskills: found in the deskills: nthe electives ination: Final Mark vant Work: Number and T Final written e coursites for Cree redit points wil	exercise-mod course content exercises a content exerciptions of the electives a minimum of the electives are electives and the electives are electives are electives are electives and the electives are elec	tion to Co	e mentione e mentione ars has to	the Master pre description ed modules ed modules be taken. Duration 120 min.	Part	e departmen ve mentione	in %

	Relevant Work	No 1			4.00 CP		
	Total				6 CP		
12	Weight of the module grade for the overall grade: 6/120 (5%)						
13	Module Prerequisites: none						
14	Presence: Presence is strongly recommended	d to warrant le	arning	success			
	Mobility/Acknowledgement:						
	Use of the module for other cours	Mast	ster Information Systems				
15	English translation of module components			No 1: Selected Chapters in Computer Science			
	English translation of module components from section 3		No 2: Exercise on Selected Chapters in Computer Science				
16	Responsible Lecturer: Prof. Dr. Heike Trautmann		Department: School of Business and Economics				
17	Misc.:						

Proje	ct Seminar (Master of	Science Information Sys	stems)					
Мо	odule Title english: Project Seminar (Master of Science Information Systems)							
Cou	rse Program:	Master Information Systems						
1	Module No: PS	State: Compulsory	Language of Instru	Language of Instruction: English				
2	Turn: each semester	Duration: 1 semester	Semester: 3 or 4	CP: 12	Workload (h): 360			
	Module Structure:							
	No Type	Course		State	Workload (h)			

No	No Type	Course	State	Workload (h)	
				Presence (h + CH)	Self- Study (h)
1	Project Seminar	Project Seminar	Compulsory	120 h (8 CH)	240

Module Profile:

Purpose of the module/integration into curriculum:

The material and methods that were introduced in former Tracks IM, PM, BN, BI, ISD and/or LPR will be applied in a practice-oriented project to solve a realistic, complex problem. The project is often performed in collaboration with a partner from industry. The experience gained in the project seminar can be helpful for the Master thesis.

Course content:

The material and methods learned in previous courses are applied in a practice-oriented project with topics varying from term to term. In particular teamwork, project planning and management, development of a business concept, design of a corresponding software architecture, implementation, and testing will be trained. Moreover, the intermediate and final results of the project will be presented using state-of-theart tools. The participants also have to read relevant literature and describe required concepts in papers. The students are supported in all these activities by tutors.

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Themes	Learning objectives
Writing scientific papers	Read and understand scientific literature. Describe the read material well-structured, understandably, and precisely in own words in a paper
Presentation	Present the material described in the paper orally using state-of-the-art tools (such as e.g. Powerpoint) in a well-structured, understandable, and precise way.
Project work	Solve a realistic task in a project team.
Project management	Manage a project taking into account limited time and resources. Divide a complex task into activities and assign them to team members. Coordinate the activities in the project.

Learning outcomes:

Academic:

The students learn to apply theoretical concepts in a practical environment given by a specific (e.g. industrial) project.

Soft skills:

	Students learn to realize a project in a team. They acquire several soft skills, e.g. in presentations, writing of scientific texts, and collaboration in teams as well as media competence.							
6	Description of possible electives within the modules: none							
7	Exam	nination: Final Module Exam						
	Rele	vant Work:			ı		1	
	No	Number and Type; Connection	on to Course		Du	ıration	Part of final mark in %	
8	1	Portfolio: Project documenta following documentation an and 1 final presentation			-	pages, ca 20 ges, ca. 90 n	100 %	
9	Stud	y Work: none						
10	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.							
	CP A	ssignment:						
11	Pres	sence	No 1			4.00 CP		
	Rele	evant Work	No 1	No 1		8.00 CP		
	Tota	al		12			12 CP	
12		tht of the module grade for th 20 (10%)	e overall grade:					
13		ule Prerequisites: crete Project Seminars may rec	quire certain mod	ules from	IM, F	PM, BN, ISD, BI	and/or LPR.	
14	Presence: Presence is strongly recommended to warrant learning success during project work and is required during presentations. As the required work can only be assessed, when all participants are present during presentations, an absence is not possible. If absent, the seminar has to be repeated.							
	Mobi	Mobility/Acknowledgement:						
15	Use	of the module for other cours	se programs	Master Information Systems				
		English translation of module components from section 3				No 1: Project Seminar		
16		onsible Lecturer: Dr. Heike Trautmann		Department: School of Business and Economics			Economics	
17	Misc	·:						

Master's Thesis

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Мос	dule Title english:	Master's Thesis				
Course Program: Master Information Systems						
1	Module No: MT	State: Compulsory	Language of Instruction: English			
2	Turn: each semester	Duration: 1 semester	Semester: 3 or 4	CP: 30	Workload (h): 900	

Module Structure:

No	Туре	Course	State	Workload (h)	
				Presence (h + CH)	Self- Study (h)
1		Writing the thesis	Compulsory	o h (o CH)	750
2		Thesis defense	Compulsory	o h (o CH)	60
3	Exercise	Research methods	Compulsory	30 h (2 CH)	60

Module Contents:

Purpose of the module/integration into curriculum:

The master thesis is written in the research context of one of the method tracks IM, PM, BN, BI and/or ISD.

Course content:

Those are subject to the topic and area where the thesis is intended. The thesis defense covers the thesis' topic. With his/her master's thesis, a student is supposed to prove his/her ability to take part in the scientific process by doing a small piece of research and write an appropriate paper on it. The thesis should have a length of approximately 80 pages. The thesis defense contains a presentation of the thesis' contents as well as a discussion.

Learning outcomes:

Academic:

The student can handle a research topic in a scientific way and apply the results to practical problems. He or she can present and defend approaches, underlying theory and results.

Soft skills:

The student can handle the formal requirements associated to a research paper: investigating the research context, collecting material from the scientific literature, performing and processing bibliographical inquiries, presenting own ideas in the scientific environment of the given topic.

6 Description of possible electives within the modules:

Examination: Final Module Exam

Relevant Work: No Number and Type; Connection to Course Duration Part of final mark in % Master's thesis 100 %

	Study	Work:					
9	No					Duration	
	1	Thesis defense (oral)				max. 1h	
10	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.						
	CP As	signment:					
			No 1		0.0	о СР	
	Pres	ence	No 2		0.0	о СР	
11			No 3		1.00	СР	
	Rele	vant Work	No 1		27.0	оо СР	
	Stud	y Work	No 1		2.00	o CP	
	Total				30 CP		
12		ht of the module grade for th	e overall grade:				
13		lle Prerequisites: edit points.					
14	Prese Prese	ence: nce is strongly recommende	d to warrant learn	ing s	uccess		
	Mobi	lity/Acknowledgement:					
	Use	of the module for other cours	se programs	Master Information Systems			
15				No 1: Writing the thesis			
	_	ish translation of module co ion 3	mponents from	No 2: Thesis defense		nse	
		33333.7			No 3: Research methods		
16	Responsible Lecturer: Prof. Dr. Heike Trautmann		Department: School of Business and Economics				
17	Misc.:						