

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 S	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	Туре	Course	State	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:

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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

	Relevant Work:					1			
8	No	Number and Type; Connection	on to Course	Du	ıration	Part of final mark in %			
	1	Final written exam		up	to 120 min.	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	ssignment:							
	Drac		No 1		1.00	СР			
11	Pres	sence	No 2		1.00	СР			
	Relevant Work No 1			4.00	СР				
	Total				6 CP				
12		tht of the module grade for the o (5%)	e overall grad	le:					
13	Mod i none	ule Prerequisites:							
14		ence: ence is strongly recommended	d to warrant le	earning s	uccess				
	Mobility/Acknowledgement:								
	Use	Use of the module for other course programs			Master Business Administration, Master Information Systems				
15	Engl	English translation of module components from section 3		No 1: Managing the Information Age Organization					
	from			No 2: Tutorial on Managing the Information Age Organization					
16		onsible Lecturer: Dr. Stefan Klein, Dr. Stefan Sc	hellhammer		Department: School of Bus	iness and Economics			
17	Misc	:			Misc.:				

Information Management: Tasks and Techniques

Мо	dule Title english:	Information Management: Tasks and Techniques						
Cou	rse Program:	Master Information Systems						
1	Module No: IM2	State: Elective	Language of Instru	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	Tasks and Techniques	Compulsory	30 h (2 CH)	90	
2	Exercise	Exercise on Tasks and Techniques	Compulsory	30 h (2 CH)	30	

Module Profile:

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.

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	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		
9	No	Number and Type; Connection	to Course			Duration		
	1	Answering case-study question	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:						
	No 1				1.00	o CP		
	Pres	sence N	No 2 1		1.00	o CP		
.1	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 co (5%)	overall grade:					
3	Modi	ule Prerequisites:						
4		ence: ence is strongly recommended to	o warrant learr	ning sı	uccess			
	Mobility/Acknowledgement:							
15	Use	of the module for other course	programs	Master Business Administration, Master Information Systems				
	Eng	lish translation of module comp	onents from	No 1: Tasks and Techniques				
ر.	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					

Information Management: Theories

Mod	dule Title english:	Information Management: Theories					
Cou	rse 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 (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:			1		i.		
	No	Number and Type; Connection	on to Course		Duratio	on	Part of final mark in %		
8	1	Written Exam (N° 1)			Up to 1	20 min.	60 %		
	2	Reflexion on readings by pre 5 students), written report a reading (N° 2)		s of 3-		min., ca 5 ca 6 pages	40 %		
9	Stud	y Work: none							
10	The o	equisites for Credit Points: credit points will be granted a oleted.	fter all relevant v	ork an	d study w	ork have bee	en successfully		
	CP Assignment:								
	Presence		No 1			1.00 CP			
11			No 2			1.00 CP			
	Relevant Work		No 1			2.50 CP			
	Tota	ıl	<u> </u>			1.50 CP 6 CP			
	Weight of the module grade for the overall grade:								
12		o (5%)							
13	Mod none	ule Prerequisites:							
14		ence: ence is strongly recommended	d to warrant lear	ning su	ıccess				
	Mobi	Mobility/Acknowledgement:							
15	Use	of the module for other cours	se programs	Master Business Administration, Master Information Systems			ation, Master		
		lish translation of module cor ion 3	mponents from		Theories Exercise	on Theories			
16		onsible Lecturer: Dr. Stefan Klein, Dr. Alexande	er Teubner		Departm School o		nd Economics		

17	Misc.:

Process Management: Information Modeling

Мо	dule Title english:	Process Management: Information Modeling					
Cou	irse 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	Type Course State		Workload (h)		
				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:

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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.

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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			-	
	Domain-specific modeling and to be able to argue both in 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	The n	ription of possible ele nodule can be taken a ives a minimum of 2 s	as part o	of the track Process		nent or as	an elective. Within the	
7	Exam	ination: Examination	s for ev	ery part of the mod	ule			
		vant Work:	onnocti	ion to Cource	Duration		Part of final mark in %	
8	No 1	Number and Type; C Final Written Exam	onnect	lon to Course	120 min.		100 %	
		I			<u> </u>		<u> </u>	
	Study No	Study Work: No Number and Type; Connection to Course Duration						
9	1	10 exercises (case st students, 4 presenta		es) in groups from 5 - 6 as per participant 4-8 pages/case study, ca. 20 min/presentation				
10	The c	quisites for Credit Po redit points will be gra pleted.		fter all relevant wo	k and stu	dy work h	ave been successfully	
	CP As	ssignment:						
				No 1		1.00 CP		
11	Pres	ence		No 2		1.00 (CP	
	Rele	vant Work		No 1		3.00	CP	
	Study Work No 1			No 1	1.00 CP			
Total 6					6 CP			
12		ht of the module grad o (5%)	le for th	e overall grade:				
13		ıle Prerequisites: rstand basics of conc	eptual	modeling, that is, p	rocess m	odeling an	d data modeling.	
14	Prese Prese	ence: ence is strongly recom	mende	d to warrant learnir	ıg succes:	5		

	Mobility/Acknowledgement:					
15	Use of the module for other course programs	Master Business Administration, Master Information Systems				
	English translation of module components from	No 1:	: Information Modeling			
	section 3	No 2: Exercise on Information Modeling				
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

Mod	dule Title english:	Process Management: Enterprise Architecture Management					
Cou	rse Program:	Master Information S	Systems				
1	Module No: PM2	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	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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		agement areas best practices	To learn about Architecture M applied.				Enterprise ractices commonl [,]	у	
		deling of Enterprise nitectures	them to create Moreover, to le	how to create different architectural artifacts and to connect create a holistic, purposeful picture of the enterprise. er, to learn to use viewpoints to generate stakeholder-specific f the architecture.					
	Ente	neworks in erprise Architecture nagement	To learn why fr Architecture M that are vividly	anageme	nt and to get to	know pro	minent framework	KS	
5	Acad The s An un imple and s conv Soft: Stud follow chair	ning outcomes: emic: students' ability to denderstanding of curre ementation should be governing such archi eyed with work on caskills: ents are encouraged w-up work in teams. The case study is o erate in teams and t	ent development e obtained. Stutectures. Further se studies and to prepare the formal to prepare the formal section is supported as grown manage their	its and fra dents are rmore, propresentate contents of ed by a Lea up work a time effici	meworks in the equipped with actical skills in ion of the resurt the lecture a arnweb discus and thus promoently. The inte	e domain of methods architectules. Its. Indexercises archites the sturmediary references architectures architectur	of architecture for planning, creature development were and to perform that is guided by idents' ability to esults are present	ting vill b	
	regul prese and s	arly by the groups in entation and discuss semantically defined ription of possible e	ion skills. The c modeling langu	reation of uage shar	architectural r	nodels by	using a syntactica	ally	
	regul prese and s Desc The r elect	ription of possible e module can be taken ives a minimum of 2	lion skills. The comodeling langual lectives within the seminars has to	reation of uage shar t he modu rack Proce o be taker	earchitectural repens analytica les: less Manageme	nodels by I and logic	using a syntactica skills.		
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8	Pescon The relect Exam Relect No 1 2	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	lectives within as part of the tree seminars has to the seminars has to the consection to M-Software,	the modulates the modulates to be taken to f the modulates to f the mo	des: ess Manageme n. odule uration o min 40 pages, ca.	nodels by l and logic nt or as an	elective. Within the state of t	he	
88	Prerections of the control 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)	lectives within as part of the tree seminars has to the seminars had been seminars had to the seminars had been seminared has to the seminars had been seminared had	reation of uage shar the modul rack Proces be taken t of the modul 12 ca	rarchitectural repens analytical repens analytical research. It is say that the say the say that the say the say that the say the	nodels by l and logic nt or as an . 40 min.	elective. Within the second se	he rk in	
88	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	lectives within as part of the tree seminars has to the seminars had been seminars had to the seminars had been seminared has to the seminars had been seminared had	reation of uage shar the modul rack Proces be taken t of the modul 12 ca	rarchitectural repens analytical repens analytical research. It is say that the say the say that the say the say that the say the	nodels by l and logic nt or as an . 40 min.	elective. Within the second se	he rk in	
7 88 9 10	Prerections CP As	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:	lectives within as part of the tree seminars has to the seminars had been seminars had to the seminars had been seminared has to the seminars had been seminared had	reation of uage shar the modul rack Proces be taken t of the modul 12 ca	rarchitectural repens analytical repens analytical research. It is say that the say the say that the say the say that the say the	nodels by l and logic nt or as an . 40 min.	elective. Within the second se	he rk in	
6 7 8 8 9 10 111	Prerections CP As	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 soleted.	lectives within as part of the tree seminars has to ons for every part. Connection to M-Software, Points: granted after all	reation of uage shar the modul rack Proces be taken t of the modul 12 ca	rarchitectural repens analytical repens analytical research. It is say that the say the say that the say the say that the say the	nodels by l and logic nt or as an work have	elective. Within the second se	hhe rk in	

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

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	Exam	nination: Examinations for ever	y part of the m	odule			
	Relev	vant Work:	ı to Course	Du	ıration	Part of final mark in %	
8	1 Written Exam (N° 1)		12	o min.	50 %		
	2	Presentation (N° 2)		ma	ax. of 30 min.	50 %	
	Study No	y Work: Number and Type; Connection	to Course			Duration	
9	Case study with group presentation (divided into max. 4 subpresentations) max. 80 minutes					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				1.00		
			0 2		1.00		
l 1	Relevant Work		No 1		1.50		
					1.50	o CP	
			6 CP				
	Total				6 CP		
12	Weig	ht of the module grade for the	overall grade:	6/120	(5%)		
13	Modu	ule Prerequisites: none					
14	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 Managem			
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 S	ster 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	Type 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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Transaction cost economics, strategic lenses on networks, organizational and governance issues, managing (in) a collaborative environment, standardization, ecosystems and infrastructures,	Themes	Learning objectives
and shape practical socio-technical systems based on well-founded principles.	strategic lenses on networks, organizational and governance issues, managing (in) a collaborative environment, standardization,	concepts to study corporate networks and learn how to apply them to selected cases of networks in order to explain their design and evolution. They will understand contingencies of network design and key dimensions of network management. This enables them to contribute to theoretical and empirical research as well as to create and shape practical socio-technical systems based on

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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: No Number and Type; Connection to Course Duration Part of final mark in % Written Exam (N° 1) 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

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.

11	CP Assignment:						
	Presence	No 1	1.00 CP				
		No 2	1.00 CP				
	Relevant Work	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

	Mobility/Acknowledgement:				
15	I lise 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				
Course Program:		Master Information S	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	every part of the mo	odule			
Rele	evant Work:					
No	Number and Type; Connec	tion to Course	Du	ration	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	dy Work: none					
The com	requisites for Credit Points: credit points will be granted appleted.	after all relevant w	ork ar	nd study work h	ave been successfully	
	CP Assignment: No 1			1.00 CP		
Presence		No 2		1.00	1.00 CP	
Relevant Work		3.00 CP		СР		
	No 2			1.00	СР	
Tot	tal			6 CP		
	ight of the module grade for t 20 (5%)	he overall grade:				
Mod	dule Prerequisites: ne					
Presence: Presence is strongly recommended to warrant learning success				ıccess		
	1.11. / 1.1					
Pres	bility/Acknowledgement:		Master Business Administration, Master Information Systems			
Mol	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				
Course Program:		Master Information S	Formation 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:

Themes

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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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

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

Learning objectives

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,

				events blind re sponsible action		and encourages	
5	Acada a) Th pher shap Soft a) St topo syste appl netw	nomena arising in netwoe practical socio-technology is wills: udents learn to "think logy as a distinctive facems. They get used to to their knowledge in unork economics c) Awards	to describe as well as an vorks b) Contribute to the nical systems based on win networks". They get a ctor that defines the properties of emergence, the ideas of emergence, the research the limitations nce and encourages resp	deep understa berties of comp deeback loops ded new real-w of formal mod	mpirica inciple inding olex so s and e orld pr els, ta	of the role of network ocial and technical equilibria b) They can roblems with the lens of	
;	The	module can be taken a	ctives within the module s part of the track Busine eminars has to be taken.	ess Networks o	r as ar	n elective. Within the	
,	Exan	nination: Examination	s for every part of the mo	dule			
3	Rele No	vant Work: Number and Type; C	onnection to Course	Duration		Part of final mark in %	
	1	Final Written Exam		120 min.		100 %	
	Stud No	y Work: Number and Type; C			[Ouration	
	1	12 written comments	, ,			ca. 0,5 page per commen	
	3	Group Presentation (Written report	ca 3-5 students)	Ca. 20 min. Ca. 5 pages			
0	The comp	equisites for Credit Pocredit points will be grapleted.	ints: anted after all relevant w	ork and study v	work h	ave been successfully	
			No 1		1.00 (CP	
	Pres	sence	No 2		1.00 CP		
1	Rele	evant Work	No 1		2.50 (СР	
			No 1		0.50		
	Stu	dy Work	No 2		0.50		
			No 3		0.50 (LY	
					6 CP		

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	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

Dus	111033 111	tettigence	. Manag	ement information by	steilis alla Data Wai	Cilousing		
M	odule Ti	tle english	:	Business Intelligence Warehousing	e: Management Infor	mation Sys	tems and Dat	ta
Co	urse Pr	ogram:		Master Information S	Systems			
1	Mod	ule No: Bl1		State: Elective	Language of Instru	ı ction: Engl	ish	
2		: each wint ester	ter	Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (I	1): 180
	Mod	ule Structı	ıre:					
	No	Туре	Cour	se		State Workload (h)		
						·	Droconco	Self-

Management Information Systems and Data

Exercises on Management Information

Systems and Data Warehousing

Presence

(h + CH)

30 h (2

30 h (2

CH)

CH)

Compulsory

Compulsory

Study

(h)

60

60

Module Profile:

Lecture

Exercise

Purpose of the module/integration into curriculum:

Warehousing

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;	•		
	OLAP Modeling Approaches To assess different OLAP modeling approaches; to demonstrate conceptual modeling of scenarios according to an appropriate approaches					
	OLAP To describe the architecture and functionality of OLAP systems; to implement reports with a standard BI platform according to a case study.					
	Mod	ing hardware trends uirements (Big Data, ons (situational BI)				
	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 cre stude to crit Soft s Throu .	tudents learn to ke eation and mainte ents will develop a tically reflect on th skills: Igh exercises and persentation te Team work Ability to comm Autonomous w Time managem Application of t	presentations, students are al chniques nunicate and collaborate orking ent heoretical concepts in practic	Management Information on the last of the	ormation Systems. The the domain and will be able	
6	The m	nodule can be take	electives within the modules en as part of the track Busines 2 seminars has to be taken.		s an elective. Within the	
7	Exam	ination: Examinat	ions for every part of the mod	ule		
	Relev	ant Work:		ı	1	
8	No	• • • • • • • • • • • • • • • • • • • •	e; Connection to Course	Duration .	Part of final mark in %	
	1	Final Written Exar	n 	120 min.	100 %	
		/ Work:	. Commodian to Commo		Duration	
9	No 1	4 Exercises	e; Connection to Course		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	Master Business Administration, Master In		ess Administration, Master Information		
15	English translation of module	No 1: Management Inf Warehousing		ement Information Systems and Data		
	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	Module Title english:			Busin	ess Intelligen	ce: Data Analytics -	I		
	Course Program:								
				Maste	er Information	Systems			
1	Modu	l e No: Bl2		State:	: Elective	truction: Englis	ruction: English		
2				Durat i semes		Semester: 1 or 2	Workload (h	rkload (h): 180	
	Module Structure:								
	No	Туре	Cou	ırse			State	Workload	(h)
3								Presence (h + CH)	Self- Stud (h)
	1	Lecture	Dat	a Analy	rtics I		Compulsory	30 h (2 CH)	60
	2	Exercise	Exe	rcise oi	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 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 cal methods in the c ised learning. Practi	iliar with the b c Language R. ontext of Data	asic concep Science. The	e mair
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 eproce	elligence te. The statistics multiva	e" offers a wastudents are sand the Stateriate statistic and unsupervind unsupervi	y to start a career in supposed to be fam istical Programming all methods in the cased learning. Practid a tutorial.	iliar with the b c Language R. ontext of Data	asic concep Science. The	e mair
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.	iliar with the b t Language R. ontext of Data cal exercises u	asic concep Science. Th sing the sta	e mair 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 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 cased learning. Practid a tutorial.	iliar with the b c Language R. ontext of Data cal exercises u eaning a-prior	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 eproce egrated ing arning es: opposed pervise 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 unsupervible lecture and Learning obj Data quality analysis Clustering, D The an understaing, as well a sen practical tare	y to start a career in supposed to be fam sistical Programming all methods in the cased learning. Practical a tutorial. ectives analysis and data call mensionality Redurations of state of the sthe ability to choo	iliar with the b Language R. context of Data cal exercises u eaning a-prior ction Technique	asic concep Science. The sing the sta i to quantitates	e main tistica tive
5	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 praire R are interest are R are interest are R are interest are set are detailed by the set are set ar	ss Inte the like and state	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 statistic and unsupervible lecture and Learning objustical talenges within the statistic and unsupervible lecture and Learning objustical talenges within the statistical talenges within talenges	y to start a career in supposed to be fam istical Programming all methods in the cased learning. Practical a tutorial. ectives analysis and data call mensionality Redurates and ing of state of the sthe ability to chooses. Business Intelligent	iliar with the by Language R. context of Data cal exercises under the carrier and calculate and implements and	asic concep Science. The state of the state	e mair tistica tive
	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 second of the secon	ss Inte the lik and st ses on eproce egrated ng arning es: opposed pervise ique fo ntation ssible of e taken 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 a gen practical taiques 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. Practical a tutorial. ectives analysis and data cased immensionality Reduces and the ability to chooses. Business Intelligent taken.	iliar with the by Language R. context of Data cal exercises under the carrier and calculate and implements and	asic concep Science. The state of the state	e mair tistica tive

	No	Number and Type; Connect	ion to Course	Dι	ıration	Part of final mark in %		
	1	1 Final Written Exam			o min.	100 %		
9	Study Work: none							
10	The c	equisites for Credit Points: redit points will be granted a pleted.	fter all relevant w	ork a	nd study work h	nave been successfully		
	CP As	ssignment:						
			No 1		1.00	CP		
11	Pres	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 the (5%)	e overall grade:					
13	Modi none	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	Master Business Administration, Master Information Systems				
	_	lish translation of module co	mponents from	No 1	: Data Analytics	1		
	sect	section 3			No 2: Exercise on Data Analytics - I			
16		onsible Lecturer: Dr. Heike Trautmann		Department: School of Business and Economics				
17	Misc	:						

Mo	dule Tit	le english:		Busines	s Intelligenc	e: Data Analytics - I				
Cou	Course Program: Module No: BI3			Master I	nformation S	Systems				
1	Module No: BI3			State: E	lective	Language of Instr	struction: English			
2				Duration semeste		Semester: 1 or 2	CP: 6	Workload (h): 180		
	Module Structure:									
	No	No Type Cour					State	Workload	(h)	
3								Presence (h + CH)	Self- Stud (h)	
	1	Lecture	Data	a Analytic	s - II		Compulsory	30 h (2 CH)	60	
	2 Exercise Exercis			rcise on D	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 Intelike the like and st ses on I	lligence" (e. The studatistics ar multivaria ptimizatio	offers a way dents are sund the Statis te statistical on and supe	ulum: to start a career in E pposed to be famili tical Programming E I methods in the cor rvised / machine lea te lecture and a tuto	ar with the ba Language R. Intext of Data Sarning. Praction	asic concep Science. The	e mair	
4	Purpo The tr Mana proba Cours The le topics the st	rack "Busine gement and ability theory se content: ecture focuss are evolution attistical Soft	ss Intelike the like and st ses on I	lligence" (e. The studatistics ar 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 te lecture and a tuto	ar with the ba Language R. Intext of Data Sarning. Praction	asic concep Science. The	e mair	
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	lligence" (e. The students) atistics ar multivaria ptimization are integ	offers a way dents are sund the Statistical on and superated into the	to start a career in I pposed to be famili tical Programming I I methods in the cor rvised / machine lea te lecture and a tuto	ar with the ba Language R. Intext of Data S Arning. Praction	asic concep Science. The	e mair	
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	lligence" (e. The student student) atistics are unltivarial ptimization are integ	offers a way dents are sund the Statistical on and superated into the Learning of Selected re	to start a career in I pposed to be famili tical Programming I methods in the corrvised / machine leade lecture and a tuto	ar with the balanguage R. Intext of Data Sarning. Practional.	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 evolutionatistical Softmes ervised Learning utionary Optiming outcome emic: tudent is supfically supervised supervis	ss Intel the like and st ses on r onary o tware R imization es: opposed vised le n R) an	lligence" of e. The student is the s	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 corrvised / machine lead to lecture and a tuto bjectives	ar with the balanguage R. Intext of Data Sarning. Practionial. Ification approlationary Opt art technique well as the a	Science. The cal exercise oaches	e mair s usin	
	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 (inskills: work, presenting outcome emics).	ss Intel the like and st ses on r conary o tware R ning / M imization essible e e taker	lligence" of e. The student is the s	offers a way dents are sund the Statistical on and superrated into the Selected results of the Selected results on understand evolutions te technique es	to start a career in E pposed to be famili tical Programming I methods in the corrvised / machine leade lecture and a tuto bjectives By gression and classing I Multiobjective Evouding of state of the ary optimization, as the for a given practical susiness Intelligence susiness Intelligence	ar with the balanguage R. Intext of Data Sarning. Practionial. Ification approleutionary Opt art technique well as the aal task.	Science. The cal exercise oaches imization	e mair s usin	
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	rack "Busine gement and ability theory se content: ecture focuss are evolutionatistical Soft mes ervised Learning utionary Optiming outcome emic: tudent is supplement (in skills: work, presented to an bounded can be are supplement of postuded	ss Intel the lik and st ses on r onary o tware R imization es: opposed vised le on R) an ontation ssible e e taker um of 2	lligence" of e. The student of the s	boffers a way dents are sund the Statistical on and superrated into the Selected results of the Single- and evolutions te technique es	to start a career in I pposed to be famili tical Programming I methods in the corrvised / machine leader lecture and a tuto bjectives By gression and classing I Multiobjective Evous I multiobjective Evous I make any optimization, as a for a given practical susiness Intelligence aken.	ar with the balanguage R. Intext of Data Sarning. Practionial. Ification approleutionary Opt art technique well as the aal task.	Science. The cal exercise oaches imization	e mair s usin cience	

	No	Number and Type; Connection	on to	Duratio	n		Part of final mark in %
	1	Written Exam (N° 1)		120 mir	١.		60 %
	2 Case study with R software, presentation (N° 2)			Ca 40 Min. (presentation), ca 15 pages		•	40 %
9	Stud	y Work: none					
10	The c	equisites for Credit Points: credit points will be granted at pleted.	fter all relevar	nt work a	and	study work have	been successfully
	CP As	ssignment:					
	_		No 1			1.00 CP	_
11	Pres	sence	No 2			1.00 CP	
	Pole	evant Work	No 1			2.50 CP	
		evalle work	No 2			1.50 CP	
	Tota	al				6 CP	
12		tht of the module grade for the o (5%)	e overall grad	le:			
13	Mod inone	ule Prerequisites:					
14		ence: ence is strongly recommended	d to warrant le	earning	succ	cess	
	Mobi	ility/Acknowledgement:					
15	Use	of the module for other cours	se programs	Master Business Administration, Master Information Systems			istration, Master
	Eng	English translation of module compone		m No	1: Da	ata Analytics - II	
	sect	tion 3		No	2: E	xercise on Data A	nalytics - II
16		onsible Lecturer: Dr. Heike Trautmann				Department: School of Busine:	ss and Economics
17	Misc	.:					

Module Title english:				Information Systems Development: Logic Specification and Programming						
Cou	ırse Pro	gram:		Master Information	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 (h): 180				
	Module Structure:									
	No	Туре	Cou	irse		State	Workload	(h)		
3							Presence (h + CH)	Self- Study (h)		
	1	Lecture	Log	ic Specification and F	Compulsory	30 h (2 CH)	45			
	2	Exercise		rcise on Logic Specifi gramming	cation and	Compulsory	30 h (2 CH)	75		

Purpose of the module/integration into curriculum:

It is assumed that the students have some experience with programming and software development as taught in the bachelor program. Depending on the subject of the intended master thesis, the taught material can be helpful.

Course content:

The course consists of lectures providing the theoretical background and of accompanying 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. Knowing the syntax and semantics of the logic database-query language Databases.								
5	Learning outcomes: Academic: The students learn to specify complex real-world relationships using logic and to transform such a specification into an executable logic program possibly including constraints or to handle it using model checking. Soft skills: The exercises are solved in teams of 3-5 students. Hence, the students get some experience with teamwork.								
6	Description of possible electives within the modules: none								
7	Examination: Examinations for every part of the module								
8	Relevant Work: No Number and Type; Connect			on to Course	Duration		Part of final mark in %		
	1 Final written exam				120 min.		100 %		
9	Study No	y Work: Number and Ty	pe; Connecti	on to Course	rse Duration				
	1 every two weeks exercise so			olved in groups		ca 15 pages/exercise, in 120 pages			
10	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully completed.								
	CP Assignment:								
	Presence			No 1		1.00 CP			
11				No 2		1.00 CP			
	Relevant Work			No 1		3.00 CP			
	Study Work 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							
15	Mobi	Mobility/Acknowledgement:							

	Use of the module for other course programs	Master Business Administration, Master Information Systems			
	English translation of module components	No 1: Logic Specification and Programming			
	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	

Module Structure:

No	Туре	Course	State	Workload (h)	
				Presence (h + CH)	Self- Study (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.

4

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									
•	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 o	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			Study Work: none					
	Prerequisites for Credit Points: The credit points will be granted after all relevant work and study work have been successfully									
0	The c	•	after all relevant wo	rk and study work h	ave been successfully					
0	The c	redit points will be granted	after all relevant wo	rk and study work h	ave been successfully					
o	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 bleted. 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 bleted. ssignment: sence	No 1 No 2 No 1	1.00 (1.00 (2.50 (CP CP					
1 2	CP As Pres Rele Tota	redit points will be granted bleted. ssignment: sence	No 1 No 2 No 1 No 2	1.00 (1.00 (2.50 (CP CP					
1 2	CP As Pres Rele Tota Weig 6/12	redit points will be granted bleted. 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					
1	Prese Release 6/120 Mode Basic	redit points will be granted bleted. ssignment: sence evant Work tht of the module grade for 50 (5%) ule Prerequisites:	No 1 No 2 No 1 No 2	1.00 (1.00 (2.50 (CP CP					

	English translation of module components from		Master Business Administration, Master Information Systems		
			Data Integration : Exercise on Data Integration		
16	Responsible Lecturer: Prof. Dr. Gottfried Vossen		Department: School of Business and Economics		
17	Misc.:				

Information Systems Development: Advanced Concepts in Software Engineering

Мос	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 Instru	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	te Workload (
				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 service technologies.		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	Acade The s a comprodu artifa resilie Soft s The a	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. Description of possible electives within the modules:					
6	Description of possible electives within the modules: none						
7	Examination: Examinations for every part of the 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 As	signment:					
	-		No 1		1.00 CP		
11	Pres	ence	No 2		1.00 CP		
	Rele	vant Work	No 1		2.50 CP		
	Relevant Work		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	lle 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

Mod	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	te Workload (
				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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	Supp	oly Chain Design	To learn about the relevant in decisions and to understand					
	Sup _I Plan	oly Chain ning	To understand the core tasks being used for demand pland production planning and dist and key indicators of order p	ning, network pla ribution planning	nning, supply planning,			
	Supply Chain Execution To learn about the scope of supply chain execution. To get a basic understanding of the basic concepts and functions of Supply Chain Event Management.							
		rstems in Supply n Management	To get an idea of features and systems.	d characteristics	of different SCM software			
5	Learning outcomes: Academic: The course's major academic outcome is a broad and profound understanding of supply chain challenges, targets, and related concepts for managing supply chain activities. Furthermore, a profound knowledge in actual methods and concepts of supply chain design, modeling, plant 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 chair. Case studies that accompany the lecture especially in Supply Chain Design and Planning							
	a real abilit front	istic scenario. The y to cooperate in to find the complete a	y for students to get acquainte e case studies are organized a ceams. The intermediary result udience. This enhances the st	s group work and s are presented i udents' presenta	I thus promote the students' regularly by the groups in			
6	The m	nodule can be tak	e electives within the modules en as part of the track Logistic ninimum of 2 seminars has to	s, Production and	d Retail or as an elective.			
7	Exam	ination: Examina	tions for every part of the mod	ule				
	Relev	ant Work:						
8	No	Number and Typ	e; Connection to Course	Duration	Part of final mark in %			
	1	Final written exa	m	120 min.	100 %			
	Study	/ Work:						
	No	Number and Typ	e; Connection to Course		Duration			
9	1	Case Study: Sup	ply Chain Design (in group) an	d presentation	approx. 40 pages & approx. 30 min.			
	2	Case Study: Sup presentation	and	approx. 40 pages & approx. 30 min.				
10	The c	quisites for Credi redit points will b leted.	t Points: e granted after all relevant wo	rk and study worl	k have been successfully			
	CP As	signment:						
11			No 1	1.0	о СР			
[]								

	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 overall grade: 6/120 (5%)					
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 o	nent: of Business and Economics	
17	Misc.:					

Module Title 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	State: Elective Language of Instr					
2	Turn: seme	each winter ster		Duration: 1 semester	Semester: 1 or 2	CP: 6	Workload (h): 180			
	Module Structure:					₌	 	41		
	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			nprehensive overview of typical tasks in production planning and control, g planning, product costing, demand forecasting, materials requirements theduling, and inventory and capacity management. Moreover, the the methods and techniques to perform these tasks. Additionally, the arrent 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						
	Proa	uction Plannir			ls requirements pla	to apply the concepts related to demand uirements planning, inventory control and				
	Prod	uction Control		To understand and be able to apply the concepts related to production control.						
	l p			To understand how IT (Information Technology) systems can support production planning and control and to gain hands-on experience with an Enterprise Resource Planning (ERP) system.						
			Data Modeling in PPC To understand the underlying data structure requirements in production planning and				<u> </u>			
		Modeling in			anning (ERP) syster lerlying data structu	ures and infor				

	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,		l Retail or as an elective.
7	Exam	ination: Final Module Exam				
8	Relev No	rant 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)	s, presentation and written			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	c have been successfully
	CP As	ssignment:	I			
	Pres	ence	No 1			o CP
11	Rele	vant Work				o CP o CP
		ly Work				o CP
	Tota	<u> </u>	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:		ı		
	Use	of the module for other cours	se programs	Master Business Administration, Master Information Systems		
15	Engl	ish translation of module co	mponents from	No	ı: Production P	lanning and Control
		ion 3	-		2: Exercise on F trol	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				
Course 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.

4

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 nformation Systems		
	English translation of module components from section 3		No 1: 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

Mod	dule Title english:	Innovation Management				
Cou	rse 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.

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	Exam	ination: Final module exam						
	Relev	rant Work:				1		
	No	Number and Type; Connect	ion to Course	Dur	ation	Part of final mark in %		
	1	Written report (group work	when indicated)	max	ximum of 50 res	100 %		
	Study Work:							
	No	Number and Type; Connect	ion to Course			Duration		
	1	none						
	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	00 CP		
			No 2		1.00	СР		
	Relevant Work		No 1		4.00	СР		
	Study Work		No 1 -		-			
	Total				6 CP	•		
		ht of the module grade for the (5%)	ne overall grade:					
	Modu none	ıle Prerequisites:						
	Prese Prese	ence: ence is strongly recommende	ed to warrant lear	ning su	ccess.			
	Mobi	lity/Acknowledgement:						
	Use	of the module for other cour	se programs	Mast	er Business Ad	dministration		
	Engl	ish translation of module co	mponents from	No 1: Innovation Management				
	_	ion 3	-	No 2: Tutorial Innovation Management				
ᆚᆫ	Responsible Lecturer: Professor Dr. Thorsten Wiesel		Department: University of Münster, Schoo Business and Economics					

Customer Relationship Management and Direct Markteting

Mod	Module Title english: Customer Relationship Management and Direct Markteting					
Cou	rse Program:	Master Information Sys	stems			
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): 180	

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:

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- 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	ination: Examinations for ev	ery part o	f the ı	module				
	Relev	/ant Work:			1			1	
	No Number and Type; Connection		ion to Cou	rse	se Duration			Part of final mark in %	
8	1 Written assignments and presenta (in group) (N° 2)		esentatio	ns	-	ges, 1 X 1 2 X 20 M		33 %	
	2	Written exam (N° 1)			90 min.		67 %		
9	Stud	y Work: none							
10	The c	equisites for Credit Points: redit points will be granted a pleted.	fter all rel	evant	work an	d study v	work have	e been successfully	
	CP Assignment:								
	Pres	Presence					1.00 CP		
11	- Fresence		No 2		1.00 CP				
	Relevant Work		No 1				1.50 CP 2.50 CP		
	Tota	Total					6 CP		
12		ht of the module grade for th	ie overall	grade	:				
13	Modu	ule Prerequisites:							
14	Prese	ence: ence is strongly recommende	d to warra	ınt lea	arning su	ccess.			
	Mobi	lity/Acknowledgement:							
15		of the module for other cours	se	Mast	ster Business Administration			n	
	Engl	lish translation of module		No 1:	: Custom	er Relati	onship M	anagement	
		ponents from section 3					omer Rela ect Marke	ationship ting	
16		onsible Lecturer: ssor Dr. Manfred Krafft				Department: School of Business and Economics			
17	Misc	:		_ _					

MA -										
INIO	dule Tit	le english:	Channel Management	· ·						
Cou	ırse Pro	gram:	Master Information Systems							
1	Modu	ıle No: MCMo9	State: Compulsory	Language of Inst	ruction: Engl	ish				
2	Turn: each summer semester Duration: 1 semester: 1 c				CP: 6	Workload (h): 180			
	Modu	ıle 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	distril Cours Main Cours Cours of into	bution. We discus se content: topics: challenges of integ ffectiveness of co se objective: It is t	ss challenges in coordin s how channel design an grated channel managen mmunication and distrib the objective of this cour	nd coordination afformation afformation channels aloose to enable stude	nnels of commect firm perfo ect firm perfo ong the custo nts to elabor	munication ormance. mer journey ate on the c	and oncep			
5	distrii Cours Main Cours Cours of inter and fi Learn Acade After Do Soft s Cours Co	bution. We discus be content: topics: challenges of integrated channel mirm performnace. ding outcomes: emic: following the court daborate on the colliscuss how firms obscuss the impact skills: Discussions in class critical discussion ommunication skills	ss challenges in coording how channel design and grated channel managem mmunication and distribute objective of this count anagement and to discusses, you are able to concept of integrated chancan create value through of channels on customes is improve your problem of research allows students.	nating multiple chaind coordination afford coordination afforded in the coordination afford chain an integrated chair behavior and criters improving their	nnels of comect firm performang the custonts to elabor hannels on commental manage ical KPIs.	munication ormance. mer journey ate on the customer belonement,	oncep			
5	distrii Cours Main Cours Cours of inte and fi Learn Acade After Do Soft s Cours Cou	bution. We discus be content: topics: challenges of integrated channel mirm performnace. Indicate on the content of the conte	ss challenges in coording how channel design and grated channel manager mmunication and distribute objective of this count anagement and to discussion and to discussion and the concept of integrated chances of channels on customers improve your problem of research allows stude lls.	nating multiple chaind coordination afford coordination afforded in the coordination afforded in the coordination and coordination and critical coordination in the coordination and critical coordination and coordination and coordination and coordination afford coord	nnels of comect firm performang the custonts to elabor hannels on commental manage ical KPIs.	munication ormance. mer journey ate on the customer belonement,	oncep			
5	distrii Cours Main Cours Of interest and fi	bution. We discus se content: topics: challenges of integrated channel mirm performnace. In the group work he group of possible second to the group work he group work he group work he group work he group of possible second to the group work he group wor	ss challenges in coording how channel design and grated channel manager mmunication and distribute objective of this count anagement and to discontain the content of integrated character value through of channels on customers improve your problem of research allows studed lls.	nating multiple chained coordination afford coordination afford channels aloose to enable stude cuss the impact of coordination an integrated chair behavior and critical coordination in their collaboration and coordination coordinates:	nnels of comect firm performang the custonts to elabor hannels on commental manage ical KPIs.	munication ormance. mer journey ate on the customer belonement,	oncep			
	distrii Cours Main Cours Grinte and fi Learn Acade After Do Soft s Do Co The cours	bution. We discus se content: topics: challenges of integrated channel mirm performnace. In the group work he group of possible second to the group work he group work he group work he group work he group of possible second to the group work he group wor	ss challenges in coording how channel design and grated channel manager mmunication and distribute objective of this count anagement and to discontant and d	nating multiple chained coordination afford coordination afford channels aloose to enable stude cuss the impact of coordination an integrated chair behavior and critical coordination in their collaboration and coordination coordinates:	nnels of comect firm performed meters on contract to elabor hannels on contract to an and present the and present to the contract to and present to the contract to the contra	munication ormance. mer journey ate on the customer belonement,	oncep			

			_					
	1	Written assignments and programming (in group) (N° 2)	resentations	2 X 10 1 X 15 r	pages an nin.	d und	33 %	
	2	Written exam (N° 1)		90 min.			67 %	
9	Stud	y Work: none						
10	The	equisites for Credit Points: credit points will be granted a pleted.	fter all relevant v	work an	d study w	ork hav	e been successfully	
	CP Assignment:							
	Pre	sence	No 1			2.00 CP		
11	Rele	evant Work	No 1			1.50 CP		
		cvane work	No 2		2.50 CF			
	Tota	al			6 CP			
12		ght of the module grade for th \circ (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	
	English translation of module components from section 3			No 1: (No 1: Channel Management			
16		oonsible Lecturer: ionja Gensler-Wiesel		Department: School of Business and Economics			ness and Economics	
17	Misc	.		_		_		

		lules (Semina									
Mo	dule Tit	le english:	Elective Modules (S	beminar)							
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	1): 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	dge of the contents of pars deal with topics that students. Each student seminar-topics may chatcordingly, the learning of been: Analysis ion - Layout and Percepon	ly chains	rch. They are t, to this end, o 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	en their knowledge in s	profound scientific know	rledge and pr	esentation.					
6			sible electives within these a minimum of 2 semin								
7	Exam	ination: Exa	minations for every part	of the module							
8		Relevant Work: No Number and Type; Connection to Course Duration Part of final mark in %									

	Seminar elaboration (academic paper) and presentation (academic paper) academic paper) and presentation (academic paper) academic paper) academic paper (academic paper) academic pa		100 %				
9	Study	y Work: none					
10	The c	quisites for Credit Points: redit points will be granted a pleted.	fter all relevant w	ork a	and study v	vork ha	ve been successfully
	CP As	ssignment:					
11	Pres	ence	No 1			2.00 Cl	P
	Rele	vant Work	No 1			4.00 CI	P
	Tota	t				6 CP	
12	Weight of the module grade for the overall grade: 6/120 (5%)						
13	Modu none	ıle Prerequisites:					
14	Prese Prese	ence: ence is strongly recommended	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
		ish translation of module cor ion 3	mponents from	No	1: Elective	Module	es
16		onsible Lecturer: Dr. Stefan Klein			Departme School of		ss and Economics
17	Misc.	:					

Selected Chapters in Information Systems

Mod	dule Tit	le english:	Selected C	Chapters in	Informat	ion Systems			
Cou	rse Pro	gram:	Master Info	ormation S	ystems				
1	Modu 5	ı le No: SCIS 1 -	State: Elec	ctive	Langua	ge of Instruc	tion: English		
2	Turn:	irregularly	Duration: semester	1	Semest 3	er: 1 or 2 or	CP: 6	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 "S	Selected	Chapters in	Compulso	ry 60 h (4 CH)	120
4	only of the unive	nce/Mathematics once or at irregul e institute only for ersity calendar ar e preceding term	ar intervals, or a limited ti nd are usuall	e.g., by gu ime. Conte	est lectu nts of the	rers or by oth e lecture are	er lecturers announced	s who are mer in the (electro	nbers onic)
5	Acade The s techr Soft s	ning outcomes: emic: tudents gain dee iiques associate skills: tudents learn to	d with the to	pic to spe	cific prob	lem settings.		ms. They can a	apply
5		ription of possib n the electives a							
7	Exam	ination: Final M	odule Exam						
8	Relev No	ant Work:	pe; Connect	ion to Cou	rse	Duration	Par	t of final mark	c in %
	1	Final written ex	am			up to 120 m	in. 100	%	
•	Study	y Work: none							
ιο	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:						
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 co	mponents from	No	o 1: Lecture "Selected Chapters in IS"			
	section 3		No	o 2: Exercise "Selected Chapters in IS"			
16	Bernd Hellingrath, Prof. Dr. Stefan	Or. Dr. h.c. Dr. h.c. Jörg Becker, Prof. DrIng. Hellingrath, Prof. Dr. Stefan Klein, Prof. Dr. rt Kuchen, Prof. Dr. Heike Trautmann, Prof. Dr.		Department: University of Münster School of Busine and Economics			
17	Misc.:						

Selected Chapters in Business Administration

Mod	dule Title english:	lish: Selected Chapters in Business Administration							
Cou	rse Program:	Master Information S	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				

Modul	e Stru	cture:
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No	Туре	Course	State	Workload (h)		
				Presence (h + CH)	Self- Study (h)	
1	Lecture	Selected Chapters in Business Administration Concerning the specific modules see module descriptions fort he Master of Busoness Administration	Compulsory	30 h (2 CH)	60	
2	Exercise	Exercise on Selected Chapters in Business Administration Concerning the specific modules see module descriptions fort he Master of Busoness 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 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:	of the above mentioned mod			
6		ription of possible electives in the electives a minimum o	s within the modules: of 2 seminars has to be take	n.		
7	Exam	nination: Examinations for e	every part of the module			
	Rele	vant Work:		1	1	
8	No	Number and Type; Connec	tion to Course	Duration	Part of final mark in %	
	See module descriptions within the Master program of the department of Business Administration					
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:				
			No 1	1.00 CP		
11	Pres	sence	No 2	1.00 CP		
	Rele	evant Work	No 1	4.00 CP		
	Total 4.00 CP					

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

_	ted Ch	<u> </u>							
Mod	Module Title english: Selected Chapters in Computer Science								
Cou	ourse Program: Master Information Systems								
1	Modu 1-5	ule No: SCCS	State: Elect	tive	Languag	e of Instructi	on: English		
2	Turn:	each ester	Duration: 1 semester		Semeste or 4	r: 1 or 2 or 3	CP: 6	Workload (i	h): 180
	Modi	ule 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	Compulsor	60 h (4 CH)	120
5	Learn Acad to be	outer Science. Cules. ning outcomes: emic: found in the deskills:	Choosing Lecture + Exercise-modules with 6 CP from the Master program of the department of Computer Science. Course content can be found in the descriptions of the above mentioned modules. Learning outcomes: Academic: to be found in the descriptions of the above mentioned modules Soft skills: to be found in the descriptions of the above mentioned modules						
6	Description of possible electives within the modules: Within the electives a minimum of 2 seminars has to be taken.								
			ble electives	within th	e modules	ed modules			
	Withi		ble electives a minimum o	within th	e modules	ed modules			
7	Withi Exam	in the electives	ble electives a minimum o Module Exam	within th	e modules ars has to	ed modules	Part	of final mark	cin %
7	Exam Relev	n the electives nination: Final / /ant Work:	ble electives a minimum o Module Exam ype; Connect	within th	e modules ars has to	ed modules : be taken.	Part 100 °		in %
8	Exam Relev No 1	nination: Final A /ant Work: Number and T	ble electives a minimum o Module Exam ype; Connect	within th	e modules ars has to	ed modules : be taken. Duration			in %
8 9	Relevent No 1 Study	n the electives nination: Final N vant Work: Number and T Final written e	ble electives a minimum o Module Exam ype; Connect xam	within th	e modules ars has to urse	ed modules : be taken. Duration 120 min.	100	%	
7 8 9 10	Relevent No 1 Study Prerections The company of the	nination: Final Namber and T Final written e y Work: none equisites for Cre credit points wil	ble electives a minimum o Module Exam ype; Connect xam	within th	e modules ars has to urse	ed modules : be taken. Duration 120 min.	100	%	

	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:						
	Use of the module for other course programs Ma			aster Information Systems			
15	English translation of modulo co				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 Sem	inar (Master	of Science Information Sy	stems)					
Мо	lodule Title english: Project Seminar (Master of Science Information Systems)								
Cou	Course Program: Master Information Systems								
1	Modi	ule 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)			

Module Profile:

Project

Seminar

Purpose of the module/integration into curriculum:

Project Seminar

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.

Self-

(h)

240

Study

Presence

(h + CH)

120 h (8

CH)

Compulsory

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:			I		İ	
	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	The o	equisites for Credit Points: credit points will be granted a pleted.	fter all relevant w	ork and s	tudy	work have been	successfully	
	CP A	ssignment:						
11	Pres	sence	No 1			4.00 CP		
	Rele	evant Work	No 1			8.00 CP		
	Tota	al				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	ility/Acknowledgement:						
15	Use	of the module for other cours	se programs	Master I	nforn	nation Systems		
		English translation of module components from Section 3				Seminar		
16		onsible Lecturer: Dr. Heike Trautmann		Department: School of Business and Economics			Economics	
17	Misc	.:						

Master's Thesis

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Mod	dule Title english:	Master's Thesis					
Cou	rse 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		
	Semester						

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:

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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:

7 Examination: Final Module Exam

Relevant Work:

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

	Study	Work:					
9	No	Number and Type; Connect	ion to Course			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	o CP	
	Rele	vant Work	No 1		27.0	00 CP	
	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			
				No 3: Research methods			
16	Responsible Lecturer: Prof. Dr. Heike Trautmann			Department: School of Business and Economics			
17	Misc.	:					