## Appendix A: Course Schedule

# for the study programme Industrial Engineering and Management B.Sc.

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### **Specialisation: Production Management**

First sen	nester		L	ST	Е	P/S	SSS	СР
Module	Module title	Module						
number		ID						
1002	General Business Administration	BWL	3	1	0	0	0	5
1020	Occupationally Orientated Work	BOA	3	1	0	0	0	5
1070	Electrical Engineering	ET	2	1	0	1	0	5
1151	Mathematics 1	MA1	2	2	0	0	0	5
1194	Physics	PHY	2	1	0	1	0	5
1259	Engineering Mechanics	TM	2	2	0	0	0	5
			•			Tota	I CP:	30
Second s	semester		L	ST	E	P/S	SSS	СР
Module	Module title	Module						
number		ID						
1065	Electronics	EL	2	1	0	1	0	5
1103	Computer Science	INF	2	1	0	1	0	5
1118	Investment and Financing	FIN	3	1	0	0	0	5
1124	Construction	KON	2	1	0	1	0	5
1157	Mathematics 2	MA2	2	2	0	0	0	5
1281	Materials Engineering	WT	2	1	0	1	0	5
		-				Tota	I CP:	30
Third ser	mester		L	ST	E	P/S	SSS	СР
Module	Module title	Module						
number		ID						
1021	External Accounting	BRE	2	2	0	0	0	5
1130	Cost and Performance Accounting	KUL	2	2	0	0	0	5
1143	Marketing	MK1	3	1	0	0	0	5
1127	Mechanical Machine Components	ME	2	1	0	1	0	5
1168	Metrology	MT	2	1	0	1	0	5
1249	Statistics	STA	2	2	0	0	0	5
			•			Tota	I CP:	30
Fourth s	emester		L	ST	Ε	P/S	SSS	СР
Module	Module title	Module						
number		ID						
1014	Automation	AUT	2	2	0	0	0	5
1040	Controlling	CON	2	2	0	0	0	5
1090	Manufacturing Processes	FER	2	0	2	1	0	5
1142	Logistics	LOG	2	2	0	0	0	5
1222	Project 1	PR1	0	0	0	2	0	5
1285	Business English	WEN	0	4	0	0	0	5
	<u>.                                      </u>		•	•	•	Tota	I CP:	30
Fifth sen	nester		L	ST	E	P/S	SSS	СР
Module	Module title	Module						
number		ID						
	Droinet 2	PR2	0	0	0	2	0	5
1223	Project 2	111/2			_			
1223 1230	Quality Management	QM	2	2	0	0	0	5

9004	Elective Module Production	WPM				0		5
	Management							
9004	Elective Module Production	WPM				0		5
	Management							
9003	Elective Module Industrial	WM				0		5
	Engineering and Management							
						Tota	I CP:	30
Sixth ser	mester		L	ST	E	P/S	SSS	СР
Module	Module title	Module						
number		ID						
1284	Business Taxation	BSL	3	1	0	0	0	5
1192	Personnel and Organisation	PUO	3	1	0	0	0	5
1302	Process and Information	PIM	2	2	0	0	0	5
	Management							
9004	Elective Module Production	WPM				0		5
	Management							
9004	Elective Module Production	WPM				0		5
	Management							
9004	Elective Module Production	WPM				0		5
	Management							
						Tota	I CP:	30
Seventh	semester		L	ST	E	P/S	SSS	CP
Module	Module title	Module						
number		ID						
1291	Bachelor Thesis	BA	0	0	0	0	0	12
1290	Colloquium	KOL	0	0	0	0	0	3
1292	Practical Project / Internship	PRA	0	0	0	0	0	15
		<u> </u>				Tota	I CP:	30

Abbreviations of the teaching forms: L = lecture, ST = tuition in seminars, E = exercise, S = seminar, P = practical, SSS = supervised self-study (specified in semester credit hours);

CP = credit points

W/S = winter/summer semester

The practical project can optionally be replaced by a semester abroad.

Elective N	Modules Production Management								
Module	Module title	Module	W/	L	ST	Е	P/S	SSS	СР
number		ID	S						
1010	Industrial Plant Layout	APL	S	2	1	1	0	0	5
1029	Machine Vision	BIL	W	2	1	0	1	0	5
1037	CAD	CAD	W	2	0	2	0	0	5
1089	Factory Planning	FPL	W	2	1	0	1	0	5
1102	Industrial Engineering / Lean Management	INLM	S	2	1	0	1	0	5
1113	Innovation and Change Management	IVM	W	2	2	0	0	0	5
1311	Intelligent Sensor Systems	ISS	S	2	1	0	1	0	5
1300	Optical Systems Engineering	OST	S	2	1	0	1	0	5
1212	Production Planning	PRP	S	2	2	0	0	0	5

1240	Robotics	ROB	W	2	1	0	1	0	5
1269	Business Simulation Logistics or General Management	ULG	S	2	0	0	2	0	5

Elective N	Elective Modules Industrial Engineering and Management								
Module	Module title	Module	W/	L	ST	Е	P/S	SSS	СР
number		ID	S						
1023	Operating Systems	BS	S	2	1	0	1	0	5
1076	Electrical Engineering 2	ET2	W	2	1	0	1	0	5
1079	Embedded Systems	ESYS	S	2	1	0	1	0	5
3135	Gender and Diversity: Success Factors for Companies	GUD	W	2	2	0	0	0	5
1245	Software Engineering	SWE	W	2	1	0	1	0	5
6004	Textile Technologies	TEX	S	2	2	0	0	0	5

## Appendix B: Course Schedule

## for the study programme Industrial Engineering and Management B.Sc.

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**Specialisation: Technical Sales** 

First sen	nester		L	ST	E	P/S	SSS	СР
Module	Module title	Module						
number		ID						
1002	General Business Administration	BWL	3	1	0	0	0	5
1020	Occupationally Orientated Work	BOA	3	1	0	0	0	5
1070	Electrical Engineering	ET	2	1	0	1	0	5
1151	Mathematics 1	MA1	2	2	0	0	0	5
1194	Physics	PHY	2	1	0	1	0	5
1259	Engineering Mechanics	TM	2	2	0	0	0	5
	3 22 3 22 2		1			l l	I CP:	30
Second s	semester		L	ST	E	P/S	SSS	СР
Module	Module title	Module						
number		ID						
1065	Electronics	EL	2	1	0	1	0	5
1103	Computer Science	INF	2	1	0	1	0	5
1118	Investment and Financing	FIN	3	1	0	0	0	5
1124	Construction	KON	2	1	0	1	0	5
1157	Mathematics 2	MA2	2	2	0	0	0	5
1281	Materials Engineering	WT	2	1	0	1	0	5
1201	Waterials Engineering	***		'			I CP:	30
Third ser	mester		L	ST	Е	P/S	SSS	CP
Module	Module title	Module	1 -		_	' ' '		0.
number	Woodie title	ID						
1021	External Accounting	BRE	2	2	0	0	0	5
1130	Cost and Performance Accounting	KUL	2	2	0	0	0	5
1143	Marketing	MK1	3	1	0	0	0	5
1127	Mechanical Machine Components	ME	2	1	0	1	0	5
1168	Metrology	MT	2	1	0	1	0	5
1249	Statistics	STA	2	2	0	0	0	5
1247	Statistics	317	12		U		I CP:	30
Fourth s	emester		L	ST	Е	P/S	SSS	CP
Module	Module title	Module	1 -	•		' ' '		0.
number	Woodie title	ID						
1014	Automation	AUT	2	2	0	0	0	5
1040	Controlling	CON	2	2	0	0	0	5
1090	Manufacturing Processes	FER	2	0	2	1	0	5
1142	Logistics	LOG	2	2	0	0	0	5
1222	Project 1	PR1	0	0	0	2	0	5
1285	Business English	WEN	0	4	0	0	0	5
1203	Business English	VVLIV	10	4	U		I CP:	30
Fifth sen	nester		L	ST	Е	P/S	SSS	
Module	Module title	Module	-	51	-	1/3	555	Oi
number	Wodale title	ID						
1223	Project 2	PR2	0	0	0	2	0	5
1230	Quality Management	QM	2	2	0	0	0	5
1264	Technical English	TEN	0	4	0	0	0	5
1204	recillical Eligibil	ILIN	U	4	U	U	U	J

		•	•	•	•	Tota	I CP:	30
1292	Practical Project / Internship	PRA	0	0	0	0	0	15
1290	Colloquium	KOL	0	0	0	0	0	3
1291	Bachelor Thesis	BA	0	0	0	0	0	12
Module number	Module title	Module ID						
	semester		L	ST	E	P/S	SSS	СР
						Tota	I CP:	30
9005	Elective Module Technical Sales	WPM				0		5
9005	Elective Module Technical Sales	WPM				0		5
9005	Elective Module Technical Sales	WPM				0		5
1302	Process and Information  Management	PIM	2	2	0	0	0	5
1192	Personnel and Organisation	PUO	3	1	0	0	0	5
1284	Business Taxation	BSL	3	1	0	0	0	5
Module number	Module title	Module ID						
Sixth ser			L	ST	Е	P/S	SSS	CP
						Tota	I CP:	30
9003	Elective Module Industrial Engineering and Management	WM				0		5
9005	Elective Module Technical Sales	WPM				0		5
9005	Elective Module Technical Sales	WPM				0		5

Abbreviations of the teaching forms: L = lecture, ST = tuition in seminars, E = exercise, S = seminar, P = practical, SSS = supervised self-study (specified in semester credit hours);

CP = credit points

W/S = winter/summer semester

The practical project can optionally be replaced by a semester abroad.

Elective N	Modules Technical Sales								
Module number	Module title	Module ID	W/ S	L	ST	Е	P/S	SSS	СР
1037	CAD	CAD	W	2	0	2	0	0	5
1275	Industrial Marketing	IGM	W	3	1	0	0	0	5
1113	Innovation and Change Management	IVM	W	2	2	0	0	0	5
1115	International Management/Marketing	IMM	S	2	2	0	0	0	5
1209	Product and Price Management	PPM	W	3	1	0	0	0	5
1210	Product Risk Management	PRM	S	2	2	0	0	0	5
1270	Business Simulation Marketing or General Management	UMG	S	2	0	0	2	0	5
1276	Distribution and Sales Management	VM	S	3	1	0	0	0	5

Elective Modules Industrial Engineering and Management									
Module	Module title	Module	W/	L	ST	E	P/S	SSS	CP
number		ID	S						
1023	Operating Systems	BS	S	2	1	0	1	0	5

1076	Electrical Engineering 2	ET2	W	2	1	0	1	0	5
1079	Embedded Systems	ESYS	S	2	1	0	1	0	5
3135	Gender and Diversity: Success Factors for Companies	GUD	W	2	2	0	0	0	5
1245	Software Engineering	SWE	W	2	1	0	1	0	5
6004	Textile Technologies	TEX	S	2	2	0	0	0	5

## Appendix C: Module catalogue

for the study programme Industrial Engineering and Management B.Sc.

General Business Administration	20
Industrial Plant Layout	21
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Machine Vision	31
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Controlling	34
Electronics	36
Electrical Engineering	37
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Factory Planning	43
Manufacturing Processes.	45
Gender and Diversity: Success Factors for Companies	47
Industrial Engineering / Lean Management	49
Industrial Marketing	50
Computer Science	52
Innovation and Change Management	53
Intelligent Sensor Systems	54
International Management/Marketing	56
Investment and Financing	58
Colloquium	60
Construction	61
Cost and Performance Accounting	63
Logistics	65
Marketing	67

Mechanical Machine Components	68
Mathematics 1	70
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Metrology	72
Optical Systems Engineering	73
Personnel and Organisation	75
Physics	77
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Production Planning	83
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Process and Information Management	87
Quality Management	88
Robotics	90
Software Engineering	92
Statistics	93
Engineering Mechanics	95
Technical English	97
Textile Technologies	99
Business Simulation Logistics or General Management	100
Business Simulation Marketing or General management	101
Distribution and Sales Management	103
Elective Module Production Management	105
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Materials Engineering	108
Business English	109

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Gene	ral Busine	ss Administra	tion						BWL	
Identi	fication er:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duration	:
1002		150 h	5	1st se	emester		Annual (V	Vinter)	1 semes	ter
1	Course:		Planned group size	zes	Scope	2)		ontact time m teaching	Self-study	
	Lecture		60 students		3	SCH	45	h	67.5	h
	Tuition in	seminars	30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	T .	outcomes/comp				ļ				
3	optimisat success of business students	cion tasks in secriteria of eco management master method siness manage	basic organisational delected entreprendent context and to each and tools for proper ment instruments	eurial fi order t evaluate roblem :	unction to be a the e solving	al areas ble to o conomi in selec	as well as classify the consequenced corpora	with the bir engineer nces of that function	asic princi ring activit neir activit nal areas. T	ples and ties in a ies. The They can
	• (c) a	Overview of the and information Corporate goal	of business admine entrepreneurial in economy level is and corporate keep of private and colliforms	function	onal are	eas of th	e goods eco			nomy
4	Forms of t	teaching:								
	Lecture,	seminar-based	I teaching with ca	ise stud	ies / ex	ercises				
5	Participati	on requirement	s:							
	Formal:									
	Content:									
6	Written e		ombination exam	nination	, perfo	rmance	examinatio	n or oral ex	xamination	
7	_		l of credit points:							
8		examination parties of the module	e (in the following	study pr	Ooramn	nes)				
O			and Management		ograniii	100)				
9			or the final grade:	. 2.50.						
	according	g to BRPO								
10		oordinator:								
			egard Manz-Schu	macher						
11	Other info		1		C.1					
10			unced at the begi	nnıng o	the co	ourse.				
12	Language German									
	Serman									

1110	ustrial Plan	t Layout								APL	
	ntification nber:	Worklo	ad:	Credits:	Study	semest	er:	Frequency offer	of the	Duratio	n:
101	0	150 h		5	4th seme	or ester	6th	Annual (S	ummer)	1 seme	ester
1	Course:		Pl	anned group siz	zes	Scope	e		ntact time n teaching	Self-stud	ly
	Lecture		60	) students		2	SCH	30	h	45	h
	Tuition in	n seminars	30	) students		1	SCH	15	h	22	h
	Exercise		20	) students		1	SCH	15	h	23	h
	Practical	or semina	r 15	students		0	SCH	0	h	0	h
	Supervise	ed self-stu	dy 60	) students		0	SCH	0	h	0	h
3	This inc the solut	ludes the tions.	structuri	low voltage a	ning tas	sk and	the anal	ysis of the t	ask. The s	students c	an defe
J	Systema producti systems	tic appro on plants and elect	s using the trical ene	lant planning ne example o rgy generation nstruction and	f bioga n syster	s plant ms, esp	s. Plani ecially	ning and pr regenerative	ojecting of energy g	of electric generation	al ener systen
4	Forms of	teaching:									
	Lecture	and semi	nar								
5	Participat	tion requir	ements:								
	Formal:		3. T								
	Content:		None								
			None								
6	Forms of	assessmei	None nt:	al examination	1						
	Forms of Written	assessmer	None nt: ion or ora	al examination	1						
6	Forms of Written Prerequise module	assessment examinate as for the examinate	None nt: ion or ora award of ion pass a	credit points: and course ass	essmer						
	Forms of Written Prerequis module	assessmer examinat site for the examinat on of the 1	None nt: ion or ora award of ion pass a module (ir	credit points: and course ass the following:	essmer study pr	ogramn					
7	Forms of Written Prerequise module Application	assessmer examinat site for the examinat on of the r	None nt: ion or ora award of ion pass a module (ir ering B.F.	credit points: and course ass	essmer study pr	ogramn		nd Industrial	Engineer	ing and	
7	Forms of Written Prerequis module Applicati Electrica Manage	assessment examinate for the examinate on of the real Engine ment B.S	None nt: ion or ora award of ion pass a module (ir ering B.E	credit points: and course ass the following s Eng., Renewab	essmer study pr	ogramn		nd Industrial	Engineer	ing and	
7	Forms of Written Prerequis module Applicati Electrica Manage Importan	assessmer examinat site for the examinat on of the rall Engine ment B.S ce of the g	None nt: ion or or award of ion pass a module (ir ering B.E c. grade for the	credit points: and course ass the following:	essmer study pr	ogramn		nd Industrial	Engineer	ing and	
7 8	Forms of Written Prerequis module Applicati Electrica Manage Importan accordin	assessmer examinat site for the examinat on of the rall Engine ment B.S ce of the g	None nt: ion or or award of ion pass a module (ir ering B.E c. grade for the	credit points: and course ass the following s Eng., Renewab	essmer study pr	ogramn		nd Industrial	Engineer	ing and	
7 8	Forms of Written Prerequis module Applicati Electrica Manages Importan accordin Module of	assessment examinate for the examinate on of the real Enginement B.S. ag to BRF coordinator	None nt: ion or ora award of ion pass a module (ir ering B.F. c. grade for the	credit points: and course ass the following song., Renewab ne final grade:	essmer study pr	ogramn		nd Industrial	Engineer	ing and	
7 8 9	Forms of Written Prerequis module Applicati Electrica Manages Importan accordin Module of Prof. Dr	assessment examinate for the examinate on of the real Engine ment B.S. are of the gray to BRF coordinatorIng. Jen	None nt: ion or ora award of ion pass a module (ir ering B.F. c. grade for the	credit points: and course ass the following song., Renewab ne final grade:	essmer study pr	ogramn		nd Industrial	Engineer	ing and	
7 8 9	Forms of Written Prerequis module of Applicati Electrica Manages Importan accordin Module of Prof. Dr	assessment examinate for the examinate on of the real Engine ment B.S. and the graph of the grap	None nt: ion or or award of ion pass a module (ir ering B.F. c. grade for the	credit points: and course ass the following seng., Renewab the final grade:	sessmer study pr le Ener	ogramm rgies B	Eng. ar	nd Industrial	Engineer	ing and	
7	Forms of Written Prerequis module Applicati Electrica Manage Importan accordin Module of Prof. Dr Other inf	assessmer examinate interior the examinate on of the real Engine ment B.S. ce of the gray to BRF coordinator. -Ing. Jen formation: re will be	None nt: ion or or award of ion pass a module (ir ering B.E c. grade for the O r: s Haubro	credit points: and course ass the following song., Renewab ne final grade:	sessmer study pr ole Ener	ogramm rgies B	Eng. ar				subject
7 8 9	Forms of Written Prerequis module Applicati Electrica Manage Importan accordin Module of Prof. Dr Other inf	assessmer examinated on of the real Engine ment B.S. ce of the gray to BRF coordinatorIng. Jen formation: re will be ble Energe	None nt: ion or or award of ion pass a module (ir ering B.E c. grade for the O r: s Haubro	credit points: and course ass the following s Eng., Renewab ne final grade: ock ed at the begin	sessmer study pr ole Ener	ogramm rgies B	Eng. ar				subject

1 <b>1 u</b> u	omation								AUT	
Iden	tification	Workload:	Credits:	Study	semes	ter:	Frequenc	ey of the	Durati	on:
1014		150 h	5	4th se	emeste	r		(Summer)	1 sem	ester
1	Course:		Planned group s	sizes	Scop	e		contact time oom teaching	Self-study	
	Lecture		60 students		2	SCH	30	h	45	h
		n seminars	30 students		2	SCH	30	h	45	h
	1 4141011 11	1 90111111111					30		15	
	Exercise		20 students		0	SCH	0	h	0	h
	Practical or seminar 15 students  Supervised self-study 60 students				0	SCH		h	0	h
	Supervise		0	SCH	0	h	0	h		
2	C	outcomes/comp	petences: basic concepts a					<u> </u>		
	Classify	the current ap	ation. Master the plication areas of application	f automat	ion tec	chnology				
2										
3	producti sensors a transmis controls, bus syst	al overview on measurem and actuators, sion elements, pneumatic an tems, control	and current develent technology, control technology, linearisation, dend hydraulic syst cabinet design, on technology, au	measure gy tasks, escription ems, pro comput	ment descri n form grammers fo	accuracy ption syst as of tran ning syst r autom	and errostems for a smission tems for a ation task	ors, the con control techn elements, an automation to	cept of nology to nalogue asks, ne	capability asks, linea and digita tworks and
	Historica producti sensors a transmis controls, bus syst package:	al overview on measurem and actuators, sion elements, pneumatic an tems, control	ent technology, control technology, i, linearisation, do nd hydraulic syst cabinet design,	measure gy tasks, escription ems, pro comput	ment descri n form grammers fo	accuracy ption syst as of tran ning syst r autom	and errostems for a smission tems for a ation task	ors, the con control techn elements, an automation to	cept of nology to nalogue asks, ne	capability asks, linea and digita tworks and
	Historica producti sensors a transmis controls, bus syst package:	al overview on measurem and actuators, sion elements, pneumatic ar tems, control s in automatio	ent technology, control technologs, linearisation, do nd hydraulic syst cabinet design, on technology, au	measure gy tasks, escription ems, pro comput	ment descri n form grammers fo	accuracy ption syst as of tran ning syst r autom	and errostems for a smission tems for a ation task	ors, the con control techn elements, an automation to	cept of nology to nalogue asks, ne	capability asks, linea and digita tworks and
4	Historica producti sensors a transmis controls, bus syst packages	al overview on measurem and actuators, sion elements pneumatic ar tems, control s in automatio	ent technology, control technolog, control technolog, linearisation, de and hydraulic syst cabinet design, on technology, au	measure gy tasks, escription ems, pro comput	ment descri n form grammers fo	accuracy ption syst as of tran ning syst r autom	and errostems for a smission tems for a ation task	ors, the con control techn elements, an automation to	cept of nology to nalogue asks, ne	capability asks, linea and digita tworks and
4	Historica producti sensors a transmis controls, bus syst packages	al overview on measurem and actuators, sion elements peneumatic a tems, control s in automatio  teaching: and exercises tion requiremen	ent technology, control technology, control technologs, linearisation, dend hydraulic systocabinet design, on technology, au	measure gy tasks, escription ems, pro comput	ment descri n form grammers fo	accuracy ption syst as of tran ning syst r autom	and errostems for a smission tems for a ation task	ors, the con control techn elements, an automation to	cept of nology to nalogue asks, ne	capability asks, linea and digita tworks and
4	Historica producti sensors a transmis controls, bus syst package:  Forms of Lectures Participat Formal: Content:	al overview on measurem and actuators, sion elements pneumatic ar tems, control s in automatio  teaching: and exercises tion requiremen None	ent technology, control technology, control technologs, linearisation, dend hydraulic systocabinet design, on technology, au	measure gy tasks, escription ems, pro comput	ment descri n form grammers fo	accuracy ption syst as of tran ning syst r autom	and errostems for a smission tems for a ation task	ors, the con control techn elements, an automation to	cept of nology to nalogue asks, ne	capability asks, linea and digita tworks and
4 5	Forms of Lectures Participat Forms of Forms of Forms of Forms of Lectures Forms of	al overview on measurem and actuators, sion elements pneumatic ar tems, control s in automatio  teaching: and exercises ion requirement None assessment:	ent technology, control technolog, control technolog i, linearisation, do nd hydraulic syst cabinet design, on technology, au  s tts:	measure gy tasks, escription ems, pro comput itomation	ement descri n form grammers fo n contr	accuracy ption systs of tran ning syst r automol ol systen	and errostems for asmission tems for a ation task	ors, the con control techn elements, an automation t ks, embedde	cept of nology ta nalogue asks, ner ed syste	capability asks, linea and digita tworks an ms, safet
4 5 6	Forms of Lectures Participat Forms of Written	al overview on measurem and actuators, sion elements presents, pneumatic artems, control s in automatio  teaching: and exercises tion requirement None assessment: examination,	ent technology, control technology, control technologi, linearisation, do nd hydraulic syst cabinet design, on technology, au technology, au technology et control technology et	measure gy tasks, escription ems, pro comput itomation	ement descri n form grammers fo n contr	accuracy ption systs of tran ning syst r automol ol systen	and errostems for asmission tems for a ation task	ors, the con control techn elements, an automation t ks, embedde	cept of nology ta nalogue asks, ner ed syste	capability asks, linea and digita tworks and ms, safet
4 5 6	Historica producti sensors a transmis controls, bus syst package.  Forms of Lectures Participat Formal: Content: Forms of Written Prerequis	al overview on measurem and actuators, sion elements , pneumatic at tems, control s in automatio  teaching: s and exercises tion requiremen None assessment: examination, ite for the awar	ent technology, control technology, control technologis, linearisation, do hydraulic syst cabinet design, on technology, au est:  e e e combination example of credit points:	measure gy tasks, escription ems, pro comput itomation	ement descri n form grammers fo n contr	accuracy ption systs of tran ning syst r automol ol systen	and errostems for asmission tems for a ation task	ors, the con control techn elements, an automation t ks, embedde	cept of nology ta nalogue asks, ner ed syste	capability asks, linea and digita tworks an ms, safet
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4 5 6 77	Forms of Lectures Participat Forms of Written Prerequis Module Applicati	al overview on measurem and actuators, sion elements pneumatic a tems, control s in automatio  teaching: and exercises tion requirement None assessment: examination, ite for the awar examination pon of the modu	ent technology, control technology, control technology, linearisation, do nd hydraulic syst cabinet design, on technology, au technology, au technology au t	measure gy tasks, escription ems, pro comput itomation	ement descri n form ogrammers for n contr	accuracy ption system of transing system of system	and errostems for asmission tems for a ation task	ors, the con control techn elements, an automation t ks, embedde	cept of nology ta nalogue asks, ner ed syste	capability asks, linea and digita tworks an ms, safet
4 5 7 8	Forms of Lectures Participate Formal: Content: Forms of Written Prerequis Module Applicati Industria	al overview on measurem and actuators, sion elements pneumatic ar tems, control s in automatio  teaching: and exercises tion requirement Non- assessment: examination, ite for the awar examination p on of the modu al Engineering	ent technology, control technology, control technology, linearisation, do hydraulic syst cabinet design, on technology, au technology, au technology au tech	measure gy tasks, escription computition mation g study pront B.Sc.	ement descri n form ogrammers for n contr	accuracy ption system of transing system of system	and errostems for asmission tems for a ation task	ors, the con control techn elements, an automation t ks, embedde	cept of nology ta nalogue asks, ner ed syste	capability asks, linea and digita tworks an ms, safet
4 5 7 8	Forms of Lectures Participate Forms of Written Prerequis Module Applicati Industria	al overview on measurem and actuators, sion elements pneumatic ar tems, control s in automatio  teaching: and exercises ion requirement None assessment: examination, ite for the awar examination pon of the modu al Engineering ce of the grade	ent technology, control technology, control technology, linearisation, do nd hydraulic syst cabinet design, on technology, au technology, au technology au t	measure gy tasks, escription computition mation g study pront B.Sc.	ement descri n form ogrammers for n contr	accuracy ption system of transing system of system	and errostems for asmission tems for a ation task	ors, the con control techn elements, an automation t ks, embedde	cept of nology ta nalogue asks, ner ed syste	capability asks, linea and digita tworks an ms, safet
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4 5 6 7 8	Forms of Lectures Participat Formal: Content: Forms of Written Prerequis Module Applicati Industria Important accordin Module of	al overview on measurem and actuators, sion elements, pneumatic attems, control is in automation.  Iteaching:  Ite	ent technology, control technology, control technology, linearisation, do hydraulic syst cabinet design, on technology, au technology, au technology au tech	measure gy tasks, escription computition mation g study pront B.Sc.	ement descri n form ogrammers for n contr	accuracy ption system of transing system of system	and errostems for asmission tems for a ation task	ors, the con control techn elements, an automation t ks, embedde	cept of nology ta nalogue asks, ner ed syste	capability asks, linea and digita tworks an ms, safet
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Rach	elor Thesis	0								BA	
Dacii	ieioi Tiiesi:	•								DA	
Identi	ification er:	Worklo	oad:	Credits:	Study	semest	er:	Frequenc offer	y of the	Duratio	n:
1291		360 h		12	6th seme	or ster	7th	each sen	nester	12 wee	eks
1	Course:		Pl	lanned group	sizes	Scope	<b>;</b>		contact time om teaching	Self-stud	У
	Lecture		60	) students		0	SCH	0	h	360	h
	Tuition in	seminar	s 30	) students		0	SCH	0	h	0	h
	Exercise		20	) students		0	SCH	0	h	0	h
	Practical of	or semina	nr 15	5 students		0	SCH	0	h	0	h
	Supervise	d self-stu	idy 60	) students		0	SCH	0	h	0	h
	task from	n his/her	subject a	ach candidat urea within a ntexts, worki	specifie	d perio	d of tim	e, both in	its subject-	specific d	e-oriented etails and
3		gy task.	It should	ally an indep deal with the r.							
4	Forms of t	teaching:									
5	Participati	on requi	rements:								
	Formal:		None								
	Content:		Coordina	ated topic fro	om the st	udent's	special	subject ar	ea		
6	Forms of a	assessme	nt:								
7	Prerequisi	te for the	award of	credit points:							
8	Apparati B.Eng., M Industria	ve Biote Mechani l Engine	chnology cal Engin	B.Sc., Electronic B.En Manageme	trical Eng g., Mech nt B.Sc.	gineerii	ng B.En				
9	according	g to BR	PO	he final grade	:						
10	Module co										
11	Other info	rmation:		ed at the beg	ginning o	f the co	ourse.				
12	Language				J 0						
	German										

Occi	upationally	Orientated W	Vork						BOA	
Ident	tification ber:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duration	n:
1020	)	150 h	5	1st se	emestei	:	Annual (	Winter)	1 semes	ster
1	Course:		Planned group s	izes	Scope	2		ontact time om teaching	Self-study	y
	Lecture		60 students		3	SCH	45	h	67.5	h
	-	n seminars	30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
2	Learning	outcomes/com	netences:							
	of these They have a team, of know the time- an	topics.  ve mastered the communication organisation	plexity, economic ne basics of scien g them to fellow al basics of proje tated manner an management.	tific wor students ct mana	k and of in pres	can use sentation	these as a less and discort to be able	pasis for wo cussing thereto work in	orking out n. In addit a a team-or	issues in tion, they rientated
3	- In pr - Ex - Ba - In - In	ange of tasks/dustrial enginactical exampacursion to reasics of technitroduction to troduction to	job market prospereering as an interples gional companies ical communication of the basics of sciem the field of the	face bet / present on of project ntific we	ween b ntation ets ork and	usiness by exter writing	administra rnal speake s and to pre	rs		using
4	Forms of Lecture,		d teaching, projec	ct work						
5		ion requiremen	nts:							
	-	Non								
	Content:	Non	e							
6	Forms of Written	assessment: examination,	e combination exar	nination	, perfo	rmance	examinatio	on, project v	work or or	al
	Forms of Written examina Prerequis	assessment: examination, tion ite for the awar	combination exar			rmance	examinatio	on, project v	work or or	al
7	Forms of Written of examina Prerequis Module	assessment: examination, tion ite for the awar examination p	combination exared of credit points:	ssessmei	nt		examinatio	n, project v	work or or	ral
7	Forms of Written examina Prerequis Module Applicati	assessment: examination, tion ite for the awar examination p on of the modu	combination exared of credit points: pass and course as le (in the following	ssessmer study pr	nt		examinatio	on, project v	work or or	ral
7	Forms of Written examina Prerequis Module Applicati Industria	assessment: examination, tion ite for the awar examination p on of the modu al Engineering	combination exared of credit points: bass and course as le (in the following and Managemer	ssessmer study pr	nt		examinatio	on, project v	work or or	ral
7	Forms of Written examina Prerequis Module Applicati Industria Importance	assessment: examination, tion ite for the awar examination p on of the modu al Engineering ce of the grade	combination exared of credit points: pass and course as le (in the following	ssessmer study pr	nt		examinatio	on, project v	work or or	ral
7 8 9	Forms of Written of examina Prerequis Module Applicati Industria Important accordin	assessment: examination, tion ite for the awar examination p on of the modu al Engineering ce of the grade g to BRPO	combination exared of credit points: bass and course as le (in the following and Managemer	ssessmer study pr	nt		examinatio	on, project v	work or or	ral
6 7 8 9	Forms of Written of examina Prerequis Module Applicati Industria Important accordin Module of	assessment: examination, tion ite for the awar examination p on of the modu al Engineering ce of the grade g to BRPO oordinator:	combination exared of credit points: bass and course as le (in the following and Managemer for the final grade:	ssessmer study pr	nt		examinatio	on, project v	work or or	ral
7 8 9	Forms of Written of examina Prerequis Module Applicati Industria Important accordin Module of	assessment: examination, tion ite for the awar examination p on of the modu al Engineering ce of the grade g to BRPO oordinator: -Ing. Franz F	combination exared of credit points: bass and course as le (in the following and Managemer for the final grade:	ssessmer study pr	nt		examinatio	on, project v	work or or	ral

Exte	ernal Accou	unting							BRE	
Iden num	tification ber:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duration	1:
102	1	150 h	5	3rd s	emeste	r	Annual (V	Vinter)	1 semes	ster
1	Course:	l	Planned group s	izes	Scope	2	Actual co /classroo	ontact time m teaching	Self-study	У
	Lecture		60 students		2	SCH	30	h	45	h
		seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
		or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
2	_	outcomes/comp	petences: cient in the system		C 1		1	-		1
	- valuatior	n options as v	well as existing d			ial balaı wers. T				eir own
3		sheet policy so	vell as existing d olutions.							neir own
3	balance s  Contents:	sheet policy so	-							eir own
3	Contents:	sheet policy so	olutions.	iscretion						eir own
3	Contents: - Introdu	uction to exten	olutions.	ping	nary po	wers. T	hey can de			eir own
3	Contents: - Introdu - System - Basics - Accou	uction to extendics of double of the annual nting and value	olutions.  rnal accounting ble-entry bookkee I financial statemouation according	ping ent unde	nary po	wers. T	hey can de			eir own
3	Contents: - Introdu - System - Basics - Accou - Annua	uction to extendice of the annual nting and value of tinancial sta	olutions.  rnal accounting ole-entry bookkee I financial statements	ping ent unde	nary po	wers. T	hey can de			eir own
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4	Contents: - Introdu - System - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content:	uction to externatics of doubt of the annual nting and valuation of the seminar-base ion requirement.	rnal accounting ble-entry bookkee I financial statement according atement policy d teaching with conts:	ping ent unde to HGB	er comn	nercial l	aw	velop and	present th	
4 5	Contents: - Introdu - Systen - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content: Forms of	uction to externatics of doubt of the annual nting and valual financial stateaching:  seminar-base ion requirement None The assessment:	rnal accounting ble-entry bookkee I financial statement according attement policy d teaching with counts: e module General I	ping ent unde to HGB ase stud	er committees and	nercial l	aw es n (1002) sh	velop and	been com	pleted
5	Contents: - Introdu - System - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content: Forms of Written of	uction to externatics of doubt of the annual nting and valual financial stateaching: seminar-base ion requirement None The assessment: examination, of	rnal accounting ble-entry bookkee I financial statement according attement policy d teaching with cotts:	ping ent unde to HGB ase stud	er committees and	nercial l	aw es n (1002) sh	velop and	been com	pleted
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4 5 5	Contents: - Introdu - System - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequise Module of Application	uction to externatics of doubt of the annual nting and valual financial stateaching: seminar-base ion requirement None The assessment: examination, of the for the aware examination pron of the modul Engineering	rnal accounting ple-entry bookkee I financial statement policy d teaching with counts: e module General I combination exar d of credit points: pass le (in the following g and Management	ping ent under to HGB ase stud Businese mination a study part B.Sc.	er commiss Admin	nercial l exampl nistratio	aw es n (1002) sh	velop and	been com	pleted
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14 55 77 33	Contents: - Introdu - System - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequise Module of Application Important accordin Module of	uction to externatics of doubt of the annual nting and valual financial stateaching:  seminar-base ion requirement None The assessment:  examination, of the for the aware examination properties of the grade g to BRPO oordinator:	rnal accounting ble-entry bookkee I financial stateme uation according tement policy  d teaching with c ats:  e module General I combination exar d of credit points: bass le (in the following g and Managemen for the final grade:	ping ent under to HGB ase stud Businese mination a study part B.Sc.	er commiss Admin	nercial l exampl nistratio	aw es n (1002) sh	velop and	been com	pleted
14 5 7 3 3	Contents: - Introdu - System - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequise Module of Application Important accordin Module of Prof. Dr.	uction to externatics of doub of the annual nting and valual financial stateaching: seminar-base ion requiremen None The assessment: examination, of the for the awar examination promote of the modul Engineering to BRPO oordinator: . rer. pol. Hub	rnal accounting ple-entry bookkee I financial statement policy d teaching with counts: e module General I combination exar d of credit points: pass le (in the following g and Management	ping ent under to HGB ase stud Businese mination a study part B.Sc.	er commiss Admin	nercial l exampl nistratio	aw es n (1002) sh	velop and	been com	pleted
44 55 77 88	Contents: - Introdu - System - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequise Module of Application Important accordin Module of Prof. Dr. Other info	uction to externatics of doubt of the annual nting and valual financial stateaching: seminar-base ion requirement None The assessment: examination, of the modulal Engineering to BRPO oordinator: . rer. pol. Hubormation:	rnal accounting ple-entry bookkee I financial statement policy defending with control tement policy defending with control	ping ent under to HGB ase stud Business mination study protections at B.Sc.	er commiss Admin	exampl nistratio rmance	aw es n (1002) sh	velop and	been com	pleted
3 4 5 7 7 8 8 9 10	Contents: - Introdu - System - Basics - Accou - Annua Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequise Module of Application Important accordin Module of Prof. Dr. Other info	uction to externatics of doubt of the annual nting and valual financial stateaching: seminar-base ion requirement None The assessment: examination, of the modulal Engineering to of the grade g to BRPO oordinator: a rer. pol. Hubormation: re will be annoted.	rnal accounting ble-entry bookkee I financial stateme uation according tement policy  d teaching with c ats:  e module General I combination exar d of credit points: bass le (in the following g and Managemen for the final grade:	ping ent under to HGB ase stud Business mination study protections at B.Sc.	er commiss Admin	exampl nistratio rmance	aw es n (1002) sh	velop and	been com	pleted

	ating Syst	ems							BS	
Ident numb	ification er:	Workload:	Credits:	Study	semest	er:	Frequency	y of the	Duratio	on:
1023		150 h	5	6th se	emeste	r		Summer)	1 seme	ester
1	Course:		Planned group sizes		Scope		Actual contact time /classroom teaching		Self-study	
	Lecture		60 students		2	SCH	30	h	45	h
		n seminars	30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		1	SCH	15	h	22.5	h
	Supervise	ed self-study	60 students 0 SCH 0 h etences:						0	h
		They explain has systems. They can explain they compare measured way They analyse so They can presedoutput manage. They master beclose to the op They create princludes the create proformulated proformulated proformulated.	ain thread and prand evaluate synton avoid race constituations of deadent how the file rement are realised asic system calls erating system. Orgrammes that a eative application oblems.	rovide hocess manchronisanditions. dlock. management in unix, e.g. for re close	anagen ation n nent an xoid op proces	re suppo ment and nechanis d the inpoerating ass handli	rt for man schedulir ms and ap put systems. ing, and ap	y tasks of n  ng.  pply them in  pply them ir  e.g. a simpl	a targete  a progran  e shell. T	perating ed and mming
3	•	General introd Practical hand Necessary hard Process manag Memory mana	uction to operati ling of Linux dware support in gement and scheo gement (including) on mechanisms (including)	processo luling (in	ors for ncl. mu manage mic op	modern ılti-threa	operating iding) id virtual	systems memory)	y)	
	• ]		l strategies for re ent	solving (	them					
4	Forms of Lecture,	Deadlocks and File manageme Input/output me teaching: seminar-style	l strategies for re ent	exerci	ses, aı					tation (

	Content:	<ul> <li>Basic computer science and programming skills (especially in C)</li> <li>Basic knowledge of computer architectures Modules:</li> <li>1105 Computer Science 1;</li> <li>1109 Computer Science 2;</li> <li>1231 Computer Architectures;</li> </ul>
6	Forms of assessme	ent:
	Written examina	ation or oral examination
7	Prerequisite for th	e award of credit points:
	Module examina	ation pass and course assessment
8	Application of the	module (in the following study programmes)
	Engineering Cor	mputer Sciences B.Eng. and Industrial Engineering and Management B.Sc.
9	Importance of the	grade for the final grade:
	according to BR	PO
10	Module coordinate	or:
	Prof. DrIng. W	Olfram Schenck
11	Other information	:
	Literature will b	e announced at the beginning of the course.
12	Language:	
	German	

Duration: mimber:   150 h   5   6th semester   Frequency of the offer annual (Summer)   1 semester   1284   150 h   5   6th semester   Annual (Summer)   1 semester   1   1   1   1   1   1   1   1   1		iness Taxa	tion							BSL	
Course:			Workload:	Credits:	Study	semest	er:		of the	Duratio	n:
Lecture	128	4	150 h	5	6th s	emeste	r	Annual (	Summer)	1 seme	ester
Tuition in seminars 30 students 1 SCH 15 h 22.5  Exercise 20 students 0 SCH 0 h 0  Practical or seminar 15 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences:  The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage cri of business tax policy and can use these in a targeted manner to independently solve tax-plannin issues. They can develop and present their own solutions to questions of tax policy.  Contents:  - Introduction to business taxation - Basics of taxation - Income tax - Corporate income tax - Trade tax - Value added tax - Other selected tax types - Instruments of business tax policy - Tax planning - Forms of teaching: Lecture, seminar-based teaching with case studies and examples - Participation requirements:  Formal: None - Content: None - Forms of assessment: Written examination, combination examination, performance examination or oral examination - Prerequisite for the award of credit points:  Module examination pass - Application of the module (in the following study programmes) - Industrial Engineering and Management B.Sc Importance of the grade for the final grade: - according to BRPO - Module coordinator: - Prof. Dr. rer. pol. Hubertus Wameling	1	Course:		Planned group s	sizes	es Scope				Self-study	
Tuition in seminars 30 students 1 SCH 15 h 22.5  Exercise 20 students 0 SCH 0 h 0  Practical or seminar 15 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences:  The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage cri of business tax policy and can use these in a targeted manner to independently solve tax-plannin issues. They can develop and present their own solutions to questions of tax policy.  Contents:  Introduction to business taxation  Basics of taxation  Income tax  Corporate income tax  Other selected tax types  Instruments of business tax policy  Tax planning  Forms of teaching:  Lecture, seminar-based teaching with case studies and examples  Participation requirements:  Formal: None  Content: None  Tormal: None		Lecture		60 students		3	SCH	45	h	67.5	h
Exercise 20 students 0 SCH 0 h 0  Practical or seminar 15 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences:  The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage cri of business tax policy and can use these in a targeted manner to independently solve tax-plannin issues. They can develop and present their own solutions to questions of tax policy.  Contents:  Introduction to business taxation  Basics of taxation  Income tax  Corporate income tax  Trade tax  Value added tax  Other selected tax types  Instruments of business tax policy  Tax planning  Forms of teaching:  Lecture, seminar-based teaching with case studies and examples  Participation requirements:  Formal: None  Content: None  Content: None  Perequisite for the award of credit points:  Module examination, combination examination, performance examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:  according to BRPO  Module coordinator:  Prof. Dr. rer. pol. Hubertus Warneling		-	n seminars			-	+		_		h
Practical or seminar   15 students   0   SCH   0   h   0    Supervised self-study   60 students   0   SCH   0   h   0    Learning outcomes/competences:  The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage or of business tax policy and can use these in a targeted manner to independently solve tax-plannin issues. They can develop and present their own solutions to questions of tax policy.  Contents:  Introduction to business taxation  Basics of taxation  Income tax  Corporate income tax  Trade tax  Value added tax  Other selected tax types  Instruments of business tax policy  Tax planning  Porms of teaching:  Lecture, seminar-based teaching with case studies and examples  Participation requirements:  Formal:  None  Content:  None  Tornet award of credit points:  Module examination, combination examination, performance examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:  according to BRPO  Module coordinator:  Prof. Dr. rer. pol. Hubertus Wameling						_		10			
Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences: The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage cri of business tax policy and can use these in a targeted manner to independently solve tax-plannir issues. They can develop and present their own solutions to questions of tax policy.  Contents:  - Introduction to business taxation - Basics of taxation - Income tax - Corporate income tax - Trade tax - Value added tax - Other selected tax types - Instruments of business tax policy - Tax planning - Forms of teaching: Lecture, seminar-based teaching with case studies and examples - Participation requirements: Formal: None Content: None - Content: Written examination, combination examination, performance examination or oral examination - Prerequisite for the award of credit points: Module examination pass - Application of the module (in the following study programmes) - Industrial Engineering and Management B.Sc Importance of the grade for the final grade: - according to BRPO - Module coordinator: - Prof. Dr. rer. pol. Hubertus Wameling		Exercise				0	SCH	0	h	0	h
Learning outcomes/competences:  The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage cri of business tax policy and can use these in a targeted manner to independently solve tax-plannin issues. They can develop and present their own solutions to questions of tax policy.  Contents:  Introduction to business taxation  Basics of taxation  Income tax  Corporate income tax  Value added tax  Other selected tax types  Instruments of business tax policy  Tax planning  Forms of teaching:  Lecture, seminar-based teaching with case studies and examples  Participation requirements:  Formal:  None  Content:  None  Content:  None  Forms of assessment:  Written examination, combination examination, performance examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:  according to BRPO  Module coordinator:  Prof. Dr. rer. pol. Hubertus Wameling		Practical	or seminar	15 students		0	SCH	0	h	0	h
The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage cri of business tax policy and can use these in a targeted manner to independently solve tax-plannin issues. They can develop and present their own solutions to questions of tax policy.  Contents:  Introduction to business taxation  Basics of taxation  Income tax  Corporate income tax  Trade tax  Value added tax  Other selected tax types  Instruments of business tax policy  Tax planning  Forms of teaching:  Lecture, seminar-based teaching with case studies and examples  Participation requirements:  Formal:  None  Content:  None  Content:  None  Toms of assessment:  Written examination, combination examination, performance examination or oral examination prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:  according to BRPO  Module coordinator:  Prof. Dr. rer. pol. Hubertus Wameling		Superviso	ed self-study	60 students		0	SCH	0	h	0	h
The students master the basics of the most important income taxes, especially tax on income an corporate income tax. They are capable of pointing out the fiscal consequences of straightforwa situations. Students will be able to appreciate the tax consequences of entrepreneurial decisions provide selected tax-structuring recommendations. They know the objectives and advantage cri of business tax policy and can use these in a targeted manner to independently solve tax-plannin issues. They can develop and present their own solutions to questions of tax policy.  Contents:  Introduction to business taxation  Basics of taxation  Income tax  Corporate income tax  Value added tax  Other selected tax types  Instruments of business tax policy  Tax planning  Forms of teaching:  Lecture, seminar-based teaching with case studies and examples  Participation requirements:  Formal:  None  Content:  None  Content:  Written examination, combination examination, performance examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:  according to BRPO  Module coordinator:  Prof. Dr. rer. pol. Hubertus Wameling		Learning	outcomes/comr	l petences:							
- Introduction to business taxation - Basics of taxation - Income tax - Corporate income tax - Trade tax - Value added tax - Other selected tax types - Instruments of business tax policy - Tax planning - Forms of teaching: Lecture, seminar-based teaching with case studies and examples  Participation requirements: Formal: None Content: None  Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass - Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		issues. T	ney can devel	op and present tl	heir own	solutio	ons to qu	estions of	tax policy.		
- Basics of taxation - Income tax - Corporate income tax - Trade tax - Value added tax - Other selected tax types - Instruments of business tax policy - Tax planning - Forms of teaching: Lecture, seminar-based teaching with case studies and examples - Participation requirements: Formal: None Content: None - Forms of assessment: Written examination, combination examination, performance examination or oral examination - Prerequisite for the award of credit points: Module examination pass - Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc Importance of the grade for the final grade: according to BRPO - Module coordinator: - Prof. Dr. rer. pol. Hubertus Wameling		Contents	:								
- Income tax - Corporate income tax - Trade tax - Value added tax - Other selected tax types - Instruments of business tax policy - Tax planning - Forms of teaching: Lecture, seminar-based teaching with case studies and examples - Participation requirements: Formal: None - Content: None - Content: None - Forms of assessment: Written examination, combination examination, performance examination or oral examination - Prerequisite for the award of credit points: Module examination pass - Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc Importance of the grade for the final grade: - according to BRPO - Module coordinator: - Prof. Dr. rer. pol. Hubertus Wameling		- Introd	uction to busin	ness taxation							
- Corporate income tax - Trade tax - Value added tax - Other selected tax types - Instruments of business tax policy - Tax planning - Forms of teaching: Lecture, seminar-based teaching with case studies and examples - Participation requirements: Formal: None Content: None Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass - Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc Importance of the grade for the final grade: according to BRPO - Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling											
- Trade tax - Value added tax - Other selected tax types - Instruments of business tax policy - Tax planning  Forms of teaching: Lecture, seminar-based teaching with case studies and examples  Participation requirements: Formal: None Content: None Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling											
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- Other selected tax types - Instruments of business tax policy - Tax planning  Forms of teaching: Lecture, seminar-based teaching with case studies and examples  Participation requirements: Formal: None Content: None  Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling											
- Instruments of business tax policy - Tax planning  Forms of teaching: Lecture, seminar-based teaching with case studies and examples  Participation requirements: Formal: None Content: None Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling											
- Tax planning Forms of teaching: Lecture, seminar-based teaching with case studies and examples Participation requirements: Formal: None Content: None Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling			•	•							
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Lecture, seminar-based teaching with case studies and examples  Participation requirements:  Formal: None  Content: None  Forms of assessment:  Written examination, combination examination, performance examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling											
Participation requirements:  Formal: None  Content: None  Forms of assessment:  Written examination, combination examination, performance examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		I OIIIID OI	teaching.				1	es			
Content: None Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling				d teaching with c	case stud	lies and	examp				
Forms of assessment: Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Lecture,	seminar-based		case stud	ies and	examp				
Written examination, combination examination, performance examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Lecture, Participa	seminar-based tion requiremen	ts:	case stud	lies and	examp				
Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Lecture, Participa Formal: Content:	seminar-based tion requirement None None	ts:	case stud	lies and	exampl				
Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Lecture, Participa Formal: Content: Forms of	seminar-based tion requirement None None assessment:	ts:							
Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Participa Formal: Content: Forms of Written	seminar-based tion requirement None None assessment:	ts:					on or oral ex	xaminatio	on
Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Lecture, Participa Formal: Content: Forms of Written Prerequis	seminar-based tion requirement None None assessment: examination, content for the award to the for the award to the award	ts: combination example of credit points:					on or oral ex	xaminatio	on
Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Lecture, Participa Formal: Content: Forms of Written Prerequis Module	seminar-based tion requirement None None assessment: examination, content for the award examination p	ts:  combination example of credit points:  ass	mination	ı, perfoi	rmance		on or oral e	xaminatio	on
according to BRPO  Module coordinator: Prof. Dr. rer. pol. Hubertus Wameling		Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati	seminar-based tion requirement None None assessment: examination, of the first term of the module of	ts:  combination example of credit points:  ass  e (in the following)	mination	ı, perfoi	rmance		on or oral e	kaminatio	on
Prof. Dr. rer. pol. Hubertus Wameling		Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati	seminar-based tion requirement None None Sassessment: examination, cosite for the award examination proposed for the modulal Engineering	ts:  combination example of credit points:  ass  e (in the following and Management)	mination g study pront B.Sc.	ı, perfoi	rmance		on or oral e	xaminatio	on
	;	Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati Industria	None None None assessment: examination, coite for the aware examination proportion of the modulal Engineering ce of the grade to	ts:  combination example of credit points:  ass  e (in the following and Management)	mination g study pront B.Sc.	ı, perfoi	rmance		on or oral ex	xaminatio	on
1 Other information:	; ;	Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati Industria Importan accordir	None None assessment: examination, on the modulal Engineering ce of the grade ing to BRPO	ts:  combination example of credit points:  ass  e (in the following and Management)	mination g study pront B.Sc.	ı, perfoi	rmance		on or oral e	kaminatio	on
Literature will be announced at the beginning of the course.	5	Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati Industria Importan accordin Module of Prof. Dr	seminar-based None None None assessment: examination, or site for the award examination proportion of the modulal Engineering ce of the grade to BRPO coordinator: . rer. pol. Hubertion None . rer. pol. Hubertion Properties of the grade to BRPO coordinator: . rer. pol. Hubertion Properties of the grade to BRPO coordinator:	ts:  combination example of credit points: ass and Management of the final grade:	mination g study pront B.Sc.	ı, perfoi	rmance		on or oral e	xaminatio	on

	hine Vision	1							BIL	
Ident numl	rification per:	Workload:	Credits:	Study	y semes	ter:	Frequenc	y of the	Duratio	n:
1029	)	150 h	5	5th s	semeste	r	Annual	(Winter)	1 seme	ester
1	Course:		Planned group s	sizes	Scop	e		contact time oom teaching		ly
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
		or seminar	15 students		1	SCH	15	h	22.5	h
	Supervise study	d self-	60 students		0	SCH	0	h	0	h
	and apply of applic developin	y the basic de cation. Unde ng independe	basic concepts, e escriptive tools ar rstand and interp ent solutions in sin	nd analy oret the	tical mo practio	ethods of cal signi	f machine ficance o	vision. Na f machine	me the cui	rent area
3	acquisition programme contour a matching biotechnology	on, basics of ming system analysis and g, colour im ological and	and current deve technical optics f s, handling macl edge detection, f age processing, medical applications ms for process m	or the achine visual ilters in applications, des	equisition pro the spations of ign of r	on of sce ogramme tial and f machi	enes, illunes, LUT frequenc ne vision	nination and and grey v y range, m as a qua	d object po value prog orphology lity assura	ositioning ramming templat ance too
4	Forms of	teaching:								
		practicals an	d exercises							
5		ion requiremen								
	Formal:	Non								
	Content:	Non	e							
6		assessment: examination,	combination exa	minatio	ı, perfo	rmance	examinati	on or oral	examinatio	on
7	_		rd of credit points: pass and course a	ssessme	nt					
7			ile (in the following			nes)	. M. 1.		\ T	
8	Apparati	ve Biotechno	ology B.Sc., Elect	rical En	gineeri	ng B.En	g., Mecna	itronics B.S	sc. and ind	ustrial
	Apparati Engineer	ve Biotechnoring and Man	ology B.Sc., Elect agement B.Sc. for the final grade:		gineeri	ng B.En	g., Mecha	itronics B.S	sc. and ind	ustrial
8	Apparati Engineer Importance	ve Biotechnoring and Man	agement B.Sc.		gineeri	ng B.En	g., Mecna	tronics B.S	sc. and ind	ustrial
8	Apparati Engineer Importance according Module co	ve Biotechno ring and Man re of the grade g to BRPO poordinator:	agement B.Sc. for the final grade:		gineeri	ng B.En	g., Mecna	tronics B.S	sc. and ind	ustrial
9	Apparati Engineer Importance according Module of Prof. Dr.	ve Biotechno ring and Man re of the grade g to BRPO coordinator: -Ing. Reinha	agement B.Sc. for the final grade:		gineeri	ng B.En	g., Mecna	uronics B.S	sc. and ind	ustrial
9	Apparati Engineer Importance according Module co Prof. Dr. Other info	ve Biotechnoring and Man re of the grade g to BRPO report of the grade g to BRPO report of the grade g	agement B.Sc. for the final grade:				g., Mecna	tronics B.S	sc. and ind	ustrial
9	Apparati Engineer Importance according Module co Prof. Dr. Other info	ve Biotechnoring and Man se of the grade g to BRPO coordinator: -Ing. Reinhar ormation: e will be ann	agement B.Sc. for the final grade: rd Kaschuba				g., Mecna	tronics B.S	c. and ind	ustrial

CAI	)								CAD	
Ident numb	ification per	Workload:	Credits:	Study	semest	ter:	Frequency offer	y of the	Duratio	on:
1037		150 h	5	3rd seme	or ster	5th	Annual (Winter)		1 sem	ester
1	Course:		Planned group s	Planned group sizes		e	Actual contact time /classroom teaching		Self-study	
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		0	SCH	0	h	0	h
	Exercise		20 students		2	SCH	30	h h	45	h
	Practical of	or seminar	15 students		0	SCH	0		0	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	Learning	outcomes/com	netences:							
3	and to us	e it in praction	ee.							
	- Co - Fr - CS - Ge - Hy - Pa - Int - 3D - 3D - Int	ee, relative of GG models an eneration techybrid volume rameterised for troduction to D CAD model rfaces  D animation of troduction to troduction to troduction to troduction to	tems, sketches, sker associative posited BREP models anniques for basic models and asso	bodies ciated his ing y with re ics cycle and	story to	ree o individ	lual parts,		and free-	form
4	Forms of	teaching:	. Projection of m	•		ocesses				
5		ion requiremen		T	F					
	Formal:	Non								
	Content:		nnical Drawing (	1265), Fa	astener	s (1271)				
6		assessment:	vomination and	mnon-i-	or the co	011#22				
7			xamination accorded of credit points:	mpanying	g ine c	ourse				
1	_	examination	_							
8			le (in the following	g study pr	ogramn	nes)				
			ng B.Eng. and In				nd Manage	ment B.Sc.		
0	Importance		for the final grade:		-	<del></del>				
9		•								
	Module c	oordinator:								
10		oordinator: -Ing. Raimur	nd Kisse							
		-Ing. Raimur	nd Kisse							

Cont	trolling								CON				
	ification	Workload:	Credits:	Study	semest	er:	Frequency	y of the	Duratio	on:			
numb 1040		150 h	5	4th se	emeste	r	offer Annual (	Summer)	1 sem	ester			
1	Course:		Planned group s	sizes	Scop	е		contact time om teaching	Self-study				
	Lecture		60 students		2	SCH	30	h	45	h			
	Tuition in	seminars	30 students		2	SCH	30	h	45	h			
	Exercise		20 students		0	SCH	0	h	0	h			
	Practical	or seminar	15 students		0	SCH	0	h	0	h			
	Supervise	d self-study	60 students		0	SCH	0	h	0	h			
2	Learning	earning outcomes/competences:											
3	thorough	lly familiar wit	proficient in the the complex of the	of topics	"Infor	mation s	supply". T						
3	- Introdu - Functi - Operat - Strateg - Cost at - Extern - Report	uction to Controls and areas of cional controlling counting systems at accounting cing	of responsibility	ng									
4	Forms of	teaching:											
			teaching with o	ase stud	ies and	examp	les						
5	Formal:	ion requirement None											
	Content:	The	modules Busing ), Investment an		•	- 1	* *			ecounting			
6		assessment:	ombination exa	mination	nerfo	rmance	examination	on or oral e	zaminatio	nn .			
7	Prerequis	ite for the award	of credit points:	auon	, perio		-Aumman	on or orar ca	· · · · · · · · · · · · · · · · · · ·	J11			
0		examination pa	ass e (in the following	r etudy sa	Outom	200)							
8			and Managemer		ogranin	108)							
9	Importance	ce of the grade f	or the final grade:										
		g to BRPO											
10		oordinator: rer. pol. Hube	rtus Wameling										
11	Other info	ormation:											
	Literatur	e will be anno	unced at the beg	ginning o	f the c	ourse.							

Elec	etronics								EL	
Iden	tification	Workload:	Credits:	Stud	y semest	er:	Frequency of the offer		Duration:	
106		150 h	5	2nd	semeste	er	Annual (Summer)		1 semester	
1	Course:		Planned group s	Planned group sizes		Scope		Actual contact time /classroom teaching		dy
	Lecture		60 students		2	SCH	30	h	45	h
		n seminars	30 students		1	SCH	15	h	22.5	h
		1 Schillars								
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		1	SCH	15	h	22.5	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
3	Contents	ies.	aspects of the	,						
	<ul><li>Funda</li><li>Semio</li><li>Opera</li><li>Basics</li><li>Integr</li></ul>	conductor com tional amplifies of digital and ated Circuits/M	miconductor phy ponents, in partiers and their appl analogue circui Microelectronics ment and manufa	cular di lications ts	S	d transis	stors and t	heir basic ci	rcuits	
4		teaching:								
-			d teaching with e	exercise	s, practi	cal cour	se			
5	Formal:	tion requiremen None								
	Content:		rical engineering	r (1070)	)					
6	Forms of	assessment:								
			combination exa	minatio	n, perfo	rmance	examinati	on or oral e	xaminatio	on
7	_		d of credit points:		,					
0			ass and course a			\				
8			le (in the following and Managemen		-	nes)				
9			for the final grade:							
-	_	g to BRPO	8							
10		coordinator:								
		Ing. Joachim	Waßmuth							
11		ormation:								
	1 * *									
			ounced at the beg	ginning	of the co	ourse.				
12	Language	e:	ounced at the beg	ginning	of the co	ourse.				

Elec	trical Engi	neering							ET			
Ident numl	ification er:	Workload:	Credits:	Study	semest	ter:	Frequency of the offer		Duration:			
1070		150 h	5	1st se	emeste	r	Annual (Winter)		1 semester		1 semester	
1	Course:		Planned group s	Planned group sizes  60 students		e	Actual contact time /classroom teaching		Self-study			
	Lecture		60 students			SCH	30	h	45	h		
		n seminars	30 students		2	SCH	15	h	22.5	h		
					_							
	Exercise		20 students		0	SCH	0	h	0	h		
	Practical	or seminar	15 students	15 students		SCH	15	h	22.5	h		
	Supervised self-s		60 students		0	SCH	0	h	0	h		
3	power systems. By gaining an insight into current areas of application, they can classify and assess the practical and economic significance of electrical engineering.  Contents:  Basic knowledge Charge, current and voltage, electric field Resistance and resistive behaviour, Ohm's law Energy and power											
	- N - C - M	al sources, ser etwork calcula apacitance, Ro agnetic field,		connection	on, brid e, forc	lge netw	ork in the mag	·				
4		teaching: seminar-base	d teaching with e	exercises	, practi	ical cour	se					
5	Formal:	Non-	e									
6	Content: Forms of	Non-	e									
J			combination exa	mination	, perfo	rmance	examinati	on or oral ex	kaminatio	on		
7			d of credit points:		, 1 ·							
	Module	examination p	bass and course a									
8			le (in the following and Managemer		ogramn	nes)						
9	Importan	ce of the grade	for the final grade:									
		g to BRPO										
10		le coordinator:										
10	Drof Da	Ing Iosobia	Walmuth									
10		Ing. Joachim ormation:	n Waßmuth									

Elec	trical Engi	meering 2								
Ident numl	tification ber:	Workload:	Credits:	Credits: Study		er:	Frequency of the offer		Duration:	
1076	1076 150 h		5	3rd seme	or ester	5th	Annual (Winter)		1 semester	
1	Course:		Planned group s	Planned group sizes  60 students		e	Actual contact time /classroom teaching		Self-study	
	Lecture		60 students			SCH	30	h	45	h
		n seminars	30 students		2	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
			15 students		<u> </u>	SCH		h	Ů	h
	Practical	or seminar	13 students		1	зсп	15	11	22.5	п
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
	Contents: Basic feature: Basic electrical engineering terms System term, linearity Dynamic systems, classification: static, transient, stationary Complex quantities Periodic signals, sinusoidal signals, exponential oscillation									
3	Basic fea Basic ele System t Dynamic Complex Periodic Impedan	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus nce, admittance	ssification: static soidal signals, expee	ponentia	ıl oscilla					
3	Basic fea Basic ele System ( Dynamic Complex Periodic Impedan Reactive Three-pl Frequence RLC circ	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus ace, admittance e power, appa hase current cy response, l cuits, resonan function, free filters	ssification: static soidal signals, exper everent power, active	ponentia e power nce beha	al oscilla	ation	esponse			
3	Basic fea Basic ele System to Dynamic Complex Periodic Impedant Reactive Three-pl Frequence RLC circ Transfer Passive to Fourier a	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus nce, admittance power, appa hase current cy response, l cuits, resonan function, free filters analysis  teaching: seminar-base	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonal quency response,	ponentia e power nce beha amplitu	al oscilla	ation  phase re	•			
	Basic fea Basic ele System to Dynamic Complex Periodic Impedan Reactive Three-pl Frequence RLC circ Transfer Passive to Fourier a	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus nce, admittance e power, appa hase current cy response, l cuits, resonan function, free filters analysis teaching: seminar-base tion requirement	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonal quency response, ad teaching with eats:	ponentia e power nce beha amplitu	al oscilla	ation  phase re	•			
4	Basic fea Basic ele System to Dynamic Complex Periodic Impedan Reactive Three-pl Frequence RLC circ Transfer Passive to Fourier a Forms of Lecture, Participat Formal:	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus ace, admittance e power, appa hase current cy response, l cuits, resonan function, free filters analysis  teaching: seminar-base tion requirement	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonar quency response, ad teaching with ents:	ponentia e power nce beha amplitu	aviour de and	phase re	rse			
4 5	Basic fea Basic ele System to Dynamic Complex Periodic Impedan Reactive Three-ph Frequence RLC circ Transfer Passive to Fourier a Forms of Lecture, Participat Formal:	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus ace, admittance e power, appa hase current cy response, l cuits, resonan function, free filters analysis  teaching: seminar-base tion requirement Non Elec	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonal quency response, ad teaching with eats:	ponentia e power nce beha amplitu	aviour de and	phase re	rse	63 or 1065)		
4	Basic fea Basic ele System to Dynamic Complex Periodic Impedan Reactive Three-ph Frequence RLC circ Transfer Passive to Fourier a Forms of Lecture, Participat Formal: Content:	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus ce, admittance e power, appa hase current cy response, l cuits, resonant function, free filters analysis  teaching: seminar-base tion requirement Non Elect assessment:	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonal quency response, and teaching with ents:	ponentia e power nce beha amplitu	aviour de and s, practi	phase recal courses, Electrical	rse rronics (10	·		
5	Basic fea Basic ele System to Dynamic Complex Periodic Impedan Reactive Three-pl Frequence RLC circ Transfer Passive in Forms of Lecture, Participat Formal: Content:	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus ce, admittance e power, appa hase current cy response, l cuits, resonan function, free filters analysis  teaching: seminar-base tion requirement Non Elect assessment: examination,	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonal quency response, and teaching with ents:  etrical Engineerin combination examples.	ponentia e power nce beha amplitu	aviour de and s, practi	phase recal courses, Electrical	rse rronics (10	·		on
4 5	Basic fea Basic ele System to Dynamic Complex Periodic Impedan Reactive Three-pl Frequence RLC circ Transfer Passive to Forms of Lecture, Participat Formal: Content: Forms of Written Prerequise	ature: ectrical engineterm, linearity c systems, cla x quantities signals, sinus ace, admittance e power, appa hase current cy response, li cuits, resonant function, free filters analysis  teaching: seminar-base tion requirement	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonar quency response, ed teaching with ents: e etrical Engineerin combination example of credit points:	ponentia e power nce beha amplitu exercises	aviour de and s, praction 1073	phase recal courses, Electrical	rse rronics (10	·		on
4 5	Basic fea Basic ele System to Dynamic Complex Periodic Impedan Reactive Three-pl Frequence RLC circ Transfer Passive a Fourier a Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequis Module	ature: ectrical engin term, linearity c systems, cla x quantities signals, sinus nce, admittance e power, appa hase current cy response, l cuits, resonan function, free filters analysis  teaching: seminar-base tion requirement Non Elect assessment: examination, ite for the awar examination	ssification: static soidal signals, experent power, active Nyquist plot t circuits, resonal quency response, and teaching with ents:  etrical Engineerin combination examples.	ponentia e power nce beha amplitu exercises g (1070 mination	aviour de and or 1073	phase recal courses, Electronance	rse rronics (10	·		on

9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. DrIng. Joachim Waßmuth
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Emb	edded Sys	tems								ESYS	
	Identification Workload: number:			Credits: Study		semester:		Frequency of the offer		Duration:	
1079		150 h		5	6th se	emester		Annual (S	ummer)	1 semes	ter
1	Course:		Pl	Planned group sizes		Scope		Actual contact time /classroom teaching		Self-study	
	Lecture		60	60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students			1	SCH	15	h	22.5	h
	Exercise		20	students		0	SCH	0	h	0	h
	Practical	or seminar	15	students		1	SCH	15	h	22.5	h
	Supervise	d self-study	60	students		0	SCH	0	h	0	h

#### 2 Learning outcomes/competences:

### Students:

- name and explain the different hardware concepts on which common embedded systems are based
- explain the underlying hardware technologies, name advantages and disadvantages and evaluate the applicability for various practical problems.
- implement combinatorial and sequential function blocks in a synthesis language (e.g. VHDL) and use common toolchains to bring the synthesised functions to a target hardware (e.g. FPGA).
- develop a complex logic component according to specifications based on the previously developed function modules.
- evaluate algorithms with regard to their implementability in hardware or software (hardware/software co-design).
- explain design concepts for the hardware-related processing of discrete and continuous signals.
- distinguish the parallel design of algorithms for the hardware synthesis from conventional programming.
- compare their synthesis results with those of the other students and discuss differences in small groups.

#### 3 Contents:

- Introduction to the topic of embedded systems (reactive, transforming systems, etc.)
- Classification of embedded hardware (microcontrollers, microprocessors, FPGAs, SoCs, etc.)
- Hardware technologies for the implementation of digital logic (SPLDs, CPLDs, FPGAs, ASICs)
- Repetition of combinatorial and sequential logic (pipelining etc.)
- Concepts of reliability, efficiency, hard and soft real time
- Hardware description languages (synthesis languages such as VHDL, VERILOG) compared to programming languages
- Introduction to VHDL
- Implementation of combinatorial and sequential logic components such as adders, multiplexers, automata, etc. in VHDL and their synthesis for an FPGA
- Synchronisation of the communication of asynchronous systems (synchronisation, metastability)
- Implementation of simple bus systems
- Aspects of hardware/software co-design

	- Control o	of mechatronic systems such as robots					
4	Forms of teaching	g:					
	Lecture, semina	ur-based teaching, practical course					
5	Participation requ	irements:					
	Formal:	None					
	Content:	Basic knowledge in the fields of digital technology, programming and computer architectures  Modules:					
		1045 Digital Electronics II;					
		1070 Digital Electronics I;					
		1104 Computer Science 1					
6	Forms of assessment:						
	Written examination, combination examination or oral examination						
7	Prerequisite for the award of credit points:						
	Module examin	ation pass and course assessment					
8	Application of the	e module (in the following study programmes)					
		neering B.Eng., Engineering Computer Sciences B.Eng., Mechatronics B.Sc. and neering and Management B.Sc.					
9		grade for the final grade:					
	according to BF	RPO					
10	Module coordina	tor:					
	Prof. Dr. rer. na	t. Axel Schneider					
11	Other information	1:					
	Literature will b	be announced at the beginning of the course.					
12	Language:						
	German						

Fact	ory Plannii	ng							FPL	
Ident	ification per:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duration:	
1089		150 h	5	5th se	emeste	r		Annual (Winter)		ester
1	Course:		Planned group sizes		Scope	e	Actual contact time /classroom teaching		Self-study	
	Lecture		60 students		2 SCH		30 h		45	h
	Tuition in seminars		30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		1	SCH	15	h	22.5	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	Students knowled the prode linking of process s They are occupation factory p	ge of essential uction plant la of the product stages. e able to componal safety ar blanning holist	ments and method subtasks of fact ayout, planning of ion plants with only with legal red others, using ically, with approximation and others, and others are conomically, and	cory plan of supply each oth equirement concrete opriate u	aning, of and of and of and of and of another anothe	e.g. buil lisposal d the in g. work aples. Tresource	ding plann (material fategration in place regulates) hey have are	ing, planning planning planning upstream lations, conthe competer able to ev	ng and cre ng) as we and dow mpany re- ences to aluate the	eation of ell as the vnstream gulations carry out
3	- Pr - Al - M - Er - W - W - Bu - Cc - Ec	anning basis a oduction concolity to chang aterial flow pl gonomics orkplace design orkspace designiding design oncept and deteonomic and te	e anning gn	on of the	e plann	_	cool			
4	Forms of		Ty planning issu	cs with	a com	iiciciai (				
4		-	I teaching with e	xercises	and pr	actical e	exercises			
5		ion requirement	s:		· · · · · ·					
	Content:	None	;							
6		assessment:			C-					
		examination, c h preliminary	combination exar	iiiiation	, perio	шапсе	examinatio	m or oral ex	ханипаио	911;
7			examination  I of credit points:							
/	_		ass with prelimir	narv exa	minatio	on				
8			e (in the following							
Ü			and Managemen		G	,				
9			or the final grade:							
	accordin	g to BRPO								

10	Module coordinator:
	Prof. DrIng. Hans-Peter Barbey
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

	nufacturing	Processes							FER	
	ntification lber:	Workload:	Credits:	Study	semest	er:	Frequency of the offer		Duration:	
109	90   150 h		5	4th s	emeste	r	Annual (Summer)		1 semester	
1	Course:		Planned group s	Planned group sizes		e	Actual contact time /classroom teaching		Self-study	
	Lecture		60 students		2 SCH		30	h	45	h
	Tuition in seminars		30 students		0	SCH	0	h	0	h
	Exercise		20 students		2	SCH	25	h	35	h
	Practical	or seminar	15 students		1	SCH	5	h	10	h
	Supervised self-study		60 students		0	SCH	0	h	0	h
	The students have basic knowledge of the processes of producexperience in the manual and machine processing of construction They can carry out basic calculations for the fundamental measurements are sufficiently select suitable manufacturing processes for specifications are able to design mechanical engineering composition are familiar with the tools of CAD-CAM and can execut						on materia anufacturicific devel	ds in mechang process opment tas production.	unical engi es and are ks and ass	neering able to ess thei
3	Detailed cutting a processe	of production of presentation and joining. Mes.	technology according of selected many ode of operation, of manufacturing	ufacturii , design	ng proc rules ar	esses of ad basic	f the proce calculation	ess groups ns for selec	forming, f ted manuf	orming acturing
4	Forms of	teaching:								
•			practical course							
_		tion requiremen								
5	Formal:	None								
5	Content:	none Mod								
5										
		assessment:	Construction;	.ont						
6	Written Prerequis	assessment: examination of the awar	Construction; or course assessm d of credit points:		nt					
6	Written Prerequis Module Applicat	assessment: examination of the awar examination prion of the moduli	Construction; or course assessm d of credit points: bass and course a le (in the following	ssessme		nes)				
6	Written Prerequis Module Applicati Industri Importan	f assessment: examination of site for the awar examination prion of the modulated and Engineering are of the grade	or course assessment of credit points: bass and course a	ssessme g study pr nt B.Sc.		nes)				
6 7 8	Written Prerequis Module Applicat Industri Importan accordin Module	f assessment: examination of site for the awar examination prion of the modulate al Engineering are of the grade and to BRPO coordinator:	or course assessment of credit points: bass and course as le (in the following and Management for the final grade:	ssessme g study pr nt B.Sc.		nes)				
6 7 8	Written Prerequis Module Applicat Industri Importan accordin Module o Prof. Dr	f assessment: examination of site for the awar examination prion of the modulal Engineering are of the gradeing to BRPO	or course assessment of credit points: bass and course as le (in the following and Management for the final grade:	ssessme g study pr nt B.Sc.		nes)				

	Fritz/Schulze: Fertigungstechnik Further literature will be announced at the beginning of the course.
12	Language:
	German

	der and Di	versity: Suc	ccess Factors for Co	mpanie	8				GUD	
Ident numb	ification per:	Workload	: Credits:	Study	semest	er:	Frequency of the offer		Duratio	n:
3135		150 h	5	5th s	emeste	r	Annual (Winter)		1 semester	
1	Course:		Planned group s	Planned group sizes		e e	Actual contact time / classroom teaching		Self-study	
	Lecture		60 students	60 students		SCH	30 h		45	h
		seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical or seminar		15 students		0	SCH	0	h	0	h
	Supervised self- study		60 students		0	SCH	0	h	0	h
2	Learning The stud	outcomes/co	empetences:							
2		Directive, Care sensitise independent business en are able to imainstream practice. are familiar management	principles in the con General Equal Treats ed to human heterog tly recognise stereo	ment Acgeneity is typing a ct relevation anagemies and his, are	of the control of the	orporate develop rmation to asses thes in t develop	on establishment of conceptu	possible ch shed concep evance for p discourse cal ideas for	anges in a pots such a profession diversi	the as gende
3	•	opportunitie Legal bases Freatment A Subjective a Possible app	and delimitation of es (e.g. diversity may and political influence Act ( <i>German</i> abbrewand social values, at proaches for taking as of business (mar	nageme nces (e. viation: titudes diversit	ent, gen g. EU A AGG)) and pre y chara	der main Anti-Dis judices cteristic	nstreaming scrimination in the con- s (e.g. gen	g) on Directive text of diver der and age	e). General	ıl Equal
4	•	Concept for Case studies	as of business (mar.) the sustainable intr s and application ex	oductio	n of ho	listic div	versity ma			
4	Forms of	Concept for Case studies	the sustainable into s and application ex	oductio amples	n of ho	listic div	versity ma	nagement		
1	Forms of	Concept for Case studies	the sustainable intr	oductio amples	n of ho	listic div	versity ma	nagement		
4	Forms of Lecture,	Concept for Case studies	the sustainable into s and application ex ased teaching, presen	oductio amples	n of ho	listic div	versity ma	nagement		
	Forms of Lecture,	Concept for Case studies teaching: seminar-ba	the sustainable into s and application ex	oductio amples	n of ho	listic div	versity ma	nagement		

	Term paper, written examination, project work or oral examination
7	Prerequisite for the award of credit points:
	Module examination pass
8	Application of the module (in the following study programmes)
	Applied Mathematics B.Sc., Apparative Biotechnology B.Sc., Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng., Mechanical Engineering B.Eng., Mechatronics B.Sc., Renewable Energies B.Eng. and Industrial Engineering and Management B.Sc.
9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. DrIng. Andrea Kaimann
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Indu	strial Engi	neering / Lea	n Management						INLM		
Identi	ification er:	Workload:	Credits:	Study	y semes	er:	Frequenc offer	y of the	Duratio	n:	
1102		150 h	5	5 4th seme		or 6th		Annual (Summer)		1 semester	
1	Course:		Planned group s	sizes	Scop	e		contact time om teaching	Self-stud	y	
	Lecture		60 students		2	SCH	30	h	45	h	
		n seminars	30 students		1	SCH	15	h	22.5	h	
	Exercise		20 students		0	SCH	0	h	0	h	
	Practical	or seminar	15 students		1	SCH	15	h	22.5	h	
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h	
2	Learning	outcomes/com	petences:				-	_			
	students possess	to solve tech fundamental	es. They are able nical and econon knowledge to dev competence throu	nic tasks relop int	s in a re	esults- a olinary t	nd action- asks withi	oriented man their com	anner. Th	e studen	
3	Contents	•									
	Pı	efinition, deli oduction gnificance to	mitation and sub-	-areas of	Indust	rial Eng	ineering, l	Lean Manag	gement an	d Lean	
		-	nteraction of proc	ess elen	nents						
		•	formance process								
			eliminating wast								
			tion and overprod								
			ion and workplac	ce design	1						
4		teaching:	ed teaching with e	voroico	nroot	201 2011	20.0				
5		tion requiremen		EXCICISES	s, pract	cai coui	<u>se</u>				
	Formal:	Non									
	Content:	Non	e								
	Forms of										
6	1 011115 01	assessment:									
6	Written	examination,	combination exa	mination	ı, perfo	rmance	examinati	on, project	work or o	ral	
	Written examina	examination, tion		minatior	n, perfo	rmance	examinati	on, project	work or o	ral	
	Written examina Prerequis	examination, tion ite for the awa	rd of credit points:		_	rmance	examinati	on, project	work or o	ral	
7	Written examina Prerequis Module	examination, tion ite for the awar examination	rd of credit points: pass and course a	ssessme	nt		examinati	on, project	work or o	ral	
7	Written examina Prerequis Module Applicati	examination, tion ite for the awa examination on of the modu	rd of credit points: pass and course a tle (in the following	ssessme	nt rogramr	nes)		on, project	work or o	ral	
7 8	Written examina Prerequis Module Applicati Mechatr	examination, tion ite for the awa examination on of the modu onics B.Sc. at	rd of credit points: pass and course a ale (in the following nd Industrial Eng	ssessme g study pr ineering	nt rogramr	nes)		on, project	work or o	ral	
7 8	Written examina Prerequis Module Applicati Mechatr Importan	examination, tion ite for the awa examination on of the modu onics B.Sc. at	rd of credit points: pass and course a tle (in the following	ssessme g study pr ineering	nt rogramr	nes)		on, project	work or o	ral	
7 8 9	Written examina Prerequis Module Applicati Mechatr Importan accordin	examination, tion ite for the awar examination on of the modu onics B.Sc. ar ce of the grade	rd of credit points: pass and course a ale (in the following nd Industrial Eng	ssessme g study pr ineering	nt rogramr	nes)		on, project	work or o	ral	
7 8 9	Written examina Prerequis Module Applicati Mechatr Importan accordir Module of Prof. Dr	examination, tion ite for the awarexamination on of the modu onics B.Sc. arece of the grade ag to BRPO coordinator: Ing. Franz F	rd of credit points: pass and course a ile (in the following nd Industrial Eng for the final grade:	ssessme g study pr ineering	nt rogramr	nes)		on, project	work or o	ral	
7 8 9	Written examina Prerequis Module Applicati Mechatr Importan accordin Module o Prof. Dr Other inf	examination, tion ite for the awarexamination on of the modulonics B.Sc. are of the grade ag to BRPO coordinator:Ing. Franz Formation:	rd of credit points: pass and course a tle (in the following and Industrial Eng for the final grade: Seyerabend	assessme g study pr ineering	nt rogramr and M	nes) anagem		on, project	work or o	ral	
7 8 9	Written examina Prerequis Module Applicati Mechatr Importan accordin Module o Prof. Dr Other inf	examination, tion ite for the awarexamination on of the modulonics B.Sc. arece of the grade ag to BRPO coordinator:Ing. Franz Formation: re will be ann	rd of credit points: pass and course a ile (in the following nd Industrial Eng for the final grade:	assessme g study pr ineering	nt rogramr and M	nes) anagem		on, project	work or o	ral	

Indu	strial Mar	keting							IGM	
Iden	tification	Workload:	Credits:	Study	semest	ter:	Frequency offer	of the	Duration	n:
127:		150	5	5 5th Se		er	Annual (Winter)		1 semester	
1	Course:	.I.	Planned group si	izes	Scop	e	/	ontact time	Self-study	у
	Lecture		60 students		3	SCH	45	h	67.5	h
		n seminars	30 students		1	SCH	15	h	22.5	h
		n semmars								11
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Superviso	ed self-	60 students		0	SCH	0	h	0	h
2	Learning	outcomes/comp	etences:				<u> </u>			
	•	marketing acq apply the spec	ontents of industruired in other could in other could features and the independently	irses and asks of i	d to ide	entify di ial mark	fferences. eting to seld	ected pract	ical exam	•
		recapitulate th Ideally, they w	ct on the special is e course content will form learning	indepen	and ta	sks of in and enh	dustrial ma ance their k	rketing. mowledge	during sel	lf-study
3	Contents 1. 2. 3.	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type a business-to-b	e course content vill form learning eks of marketing, e marketing and seessed and process estem technologies pproaches for the	especial elected ssed mass	and tadently that la	racterisa ms: The	dustrial ma ance their k ghout the er tion of indu marketing rts and con ainable con	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	as wel
4	Contents 1. 2. 3. Forms of Lecture,	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type a business-to-b teaching:	e course content vill form learning eks of marketing, e marketing and s essed and proces stem technologies pproaches for the usiness field	especial elected ssed mass	and tadently that la	racterisa ms: The	dustrial ma ance their k ghout the er tion of indu marketing rts and con ainable con	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as wellines, (d)
	Contents 1. 2. 3. Forms of Lecture,	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type a business-to-b teaching: seminar-based	e course content vill form learning eks of marketing, e marketing and sessed and procestem technologies pproaches for the usiness field	especial elected ssed mass	and tadently that la	racterisa ms: The (b) par	dustrial ma ance their k ghout the er tion of indu marketing rts and con ainable con	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	as wel
4	Contents 1. 2. 3. Forms of Lecture, Participa Formal:	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type a business-to-b  teaching: seminar-based	e course content vill form learning less of marketing, and seesed and procestem technologies pproaches for thusiness field diteaching with each less.	especial elected ssed mas ae realis	and tadently that la lly chaproble terials, sation	racterisa ms: The , (b) par of susta	dustrial ma ance their k ghout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as wel
4	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content:	Building bloc Type-specific as semi-proce plants, (e) sys Cross-type a business-to-b  teaching: seminar-based Know	e course content vill form learning eks of marketing, e marketing and sessed and procestem technologies pproaches for the usiness field	especial elected ssed mas ae realis	and tadently that la lly chaproble terials, sation	racterisa ms: The , (b) par of susta	dustrial ma ance their k ghout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as wel
4	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content: Forms of	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type as business-to-b  teaching: seminar-based tion requirement None Know assessment:	e course content vill form learning less of marketing, and seesed and procestem technologies pproaches for thusiness field diteaching with each less.	especial elected ssed mas ae realis	and tadently that la lly chaproble terials, sation	racterisa ms: The , (b) par of susta	dustrial ma ance their k ghout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as wel
5	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content: Forms of Written	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type as business-to-b  teaching: seminar-based tion requirement None Know assessment: examination	e course content vill form learning leks of marketing, marketing and sessed and procestem technologies pproaches for thusiness field deteaching with extension the learning with extension the learning with extension the learning with extension to th	especial elected ssed mas ae realis	and tadently that la lly chaproble terials, sation	racterisa ms: The , (b) par of susta	dustrial ma ance their k ghout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as we
5	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content: Forms of Written Prerequise	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type as business-to-b  teaching: seminar-based ition requirement None Know assessment: examination site for the award	e course content vill form learning less of marketing, and seesed and procestem technologies pproaches for thusiness field diteaching with each less less wledge of the model of credit points:	especial elected ssed mas ae realis	and tadently that la lly chaproble terials, sation	racterisa ms: The , (b) par of susta	dustrial ma ance their k ghout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as we
4 5 6	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content: Forms of Written Prerequis Module	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type as business-to-b  teaching: seminar-based ition requirement None Know assessment: examination site for the award examination p	e course content vill form learning  eks of marketing, and seesed and procestem technologies pproaches for the usiness field  d teaching with exterior the course of the model of credit points:  eass	especial elected ssed mas are realismeters.	and tadently that la lly cha proble terials, sation	racterisa ms: The (b) par of susta	dustrial ma ance their k ghout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as we
4 5 6 7	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati	: Building bloc Type-specific as semi-proce plants, (e) sys Cross-type as business-to-b  teaching: seminar-based  tion requirement  None  Know assessment: examination site for the award examination plant of the module	e course content vill form learning less of marketing, and seesed and procestem technologies pproaches for thusiness field deaching with each less less less less less less less les	especial elected ssed mas are realise exercises	and tadently that la lly chaproble terials, sation	racterisams: The (b) par of susta	dustrial ma ance their k shout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as we
4 5 7 8	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati Mechatr	Building bloc Type-specific as semi-proce plants, (e) sys Cross-type as business-to-b  teaching: seminar-based  Know assessment: examination site for the aware examination plon of the modul ronics B.Sc. an	e course content vill form learning lea	especial elected ssed mas are realise exercises	and tadently that la lly chaproble terials, sation	racterisams: The (b) par of susta	dustrial ma ance their k shout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as we
4 5 6	Contents 1. 2. 3. Forms of Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati Mechatr Importan	Building bloc Type-specific as semi-proce plants, (e) sys Cross-type as business-to-b  teaching: seminar-based  Know assessment: examination site for the aware examination plon of the modul ronics B.Sc. an	e course content vill form learning less of marketing, and seesed and procestem technologies pproaches for thusiness field deaching with each less less less less less less less les	especial elected ssed mas are realise exercises	and tadently that la lly chaproble terials, sation	racterisams: The (b) par of susta	dustrial ma ance their k shout the en tion of indu- marketing rts and con- tinable con-	rketing. nowledge tire study astrial mari of (a) raw apponents,	during sel period. keting materials (c) machi	s as we

10	Module coordinator:
	Prof. Dr. rer. oec. Klaus Rüdiger
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Com	puter Scier	nce							INF	
Identi	ification	Workload:	Credits:	Study	semest	er:	Frequency	of the	Duration	1:
1103		150 h	5	2nd s	semeste	er	Annual (Summer)		1 semester	
1	Course:	Planned group sizes			Scope	e		contact time om teaching	Self-study	
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		1	1 SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		1	SCH	15	h	22.5	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
	can solve	simple real-v	sic methods of con world problems. T and business, and	hey car	assess	the bene	efits and p	roblems of		
3	Contents:									
	- Inform	ation and its	presentation							
			d computer arithn	netic						
	- Repres	entation and	properties of simp	ole algo	rithms					
			ucts of a high-lev		rammir	ig langu	age (e.g. C	C)		
			perative program	ming						
4	Forms of t	-	d taaahina with a			aal aau				
5		on requiremen	d teaching with ex	xercises	, pracu	cai cour	se			
3	Formal:	None								
	Content:	None	-							
6		assessment:								
		xamination								
7			d of credit points:							
			bass and course as							
8			le (in the following and Managemen		ogramn	nes)				
9	Importanc	e of the grade	for the final grade:	· D.DC.						
		g to BRPO								
10		oordinator:	т							
1.1			rgios Lajios							
11		Prof. Dr. rer. nat. Georgios Lajios Other information:								
	itoratur	will be anno	nunced at the bear	nning	f the or	niree				
12	Literature Language		ounced at the begi	nning o	of the co	ourse.				

Inno	ovation and	Change Mana	agement						IVM	
	tification	Workload:	Credits:	Stud	y semest	er:	Frequenc	y of the	Duratio	n:
num 111		150 h	5	5th semester			offer Annual (	(Winter)	1 semester	
1	Course:		Planned group s	sizes	Scope	e		contact time om teaching	Self-stud	y
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	n seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Superviso	ed self-study	60 students		0	SCH	0	h	0	h
3	students operates	to act independent.	nt can be implemendently in the fie	eld of in	nnovatio	on and c	hange env	rironment ir	which a	compan
	- Innov - Innov - Produ - Chang - Metho - Coope	ation process t ation process t ct managemen ge managemen odical manager eration in inno	vation managem he early phases ( he late phases ( t and intellectua t, boundary cond ment of innovation vation and changer of innovation	(emerge process of l proper ditions a on and of ge teams	control, ty rights and succ change	success	assessmen	nt)		
4		teaching:								
		seminar-base								
5	-	tion requiremen								
	Formal: Content:	None None								
6		assessment:								
O		examination, o	combination exa	minatio	n, perfo	rmance	examinati	on, project	work or o	ral
7	Prerequis	site for the awar	d of credit points:	ccecema	•nt					
8	Applicati	on of the modul	e (in the following	g study p	rogramn		D. C.			
9	Importan	ce of the grade	d Industrial Eng for the final grade:		g and M	anagem	ent B.Sc.			
10		ng to BRPO coordinator:								
		Ing. Franz Fo	eyerabend							
11	Other inf	ormation:	ounced at the beg	ginning	of the co	ourse.				
				,,						
12	Language			, <i>B</i>						

Inte	lligent Sen	sor Systems							ISS	
Iden	tification	Workload:	Credits:	Stud	y semest	er:	Frequency	y of the	Duratio	on:
131		150 h	5	5 6th s		r	Annual (Summer)		1 semester	
1	Course:		Planned group s	sizes	Scope	e	Actual of time / c	lassroom	Self-stu	dy
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	n seminars	30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		1	SCH	15	h	22.5	h
	Practical or seminar  Supervised self-study		60 students		0	SCH	0	h	0	h
3	applicate Sensor's Signal p theorem Sensor's Sensor's window Construct Integrati FPGA),	con of terms, carions, sensor chains; sensor chains; processing and a signal procession correctioning, design and ction of technicion levels, interconnectivity/r	ategorisation acc naracterisation (a conditioning, de ng: n, discrete-time p d implementation cal sensor syster lligent sensors, in network connection	esign and processin n of digins: ndirect/v	, resoluted realisating of an	tion, sen ation of a alogue s	sitivity, li analogue f signals, sp	nearity) ilters, ADU	J/DAU, s ysis/FFT,	ampling
3	Sensors: Definition applicate Sensor	con of terms, casions, sensor chains chain: processing and signal procession correction ing, design and ction of technicion levels, interconnectivity/roment methodo	naracterisation (a conditioning, de ng: n, discrete-time p d implementation cal sensor syster lligent sensors, in network connecti	esign and processin n of digins: ndirect/son ations	, resolut d realisa ng of an ital filter virtual so	tion, sen	sitivity, li	nearity) ilters, ADU ectral anal	J/DAU, s ysis/FFT,	ampling
4	Sensors: Definition applicate Sensor s Signal p theorem Sensor s Sensor s window Construct Integrate FPGA), Develop  Forms of Lecture, Participa	con of terms, casions, sensor chains chain: processing and signal procession correction ing, design and ction of technicion levels, interconnectivity/roment methodo	conditioning, de ng:  n, discrete-time pd implementation cal sensor syster lligent sensors, in the twork connections and applicated teaching with output to the content of	esign and processin n of digins: ndirect/son ations	, resolut d realisa ng of an ital filter virtual so	tion, sen	sitivity, li	nearity) ilters, ADU ectral anal	J/DAU, s ysis/FFT,	ampling
	Sensors: Definition applicate Sensor so Signal post theorem Sensor so Sensor so window Construct Integration FPGA), Develop  Forms of Lecture,	con of terms, carions, sensor chains chain: brocessing and chain: brocessing and chains crocessing and chains crocessing and chains crocessing and chains correction of technicion levels, interconnectivity/roment methodo	conditioning, de ng:  n, discrete-time pd implementation cal sensor syster lligent sensors, in the twork connections and applicated teaching with output to the content of	couracy esign and processin of diginals: ndirect/son ations  compute g (1073 1070 Inc 1067 ar	ng of an ital filter virtual so er exercion and 10° dustrial and 1069	alogue s rs ensors, a ses, prac 76 Mech Enginee Enginee	sitivity, li	rilters, ADU ectral analy embedded s rse 1070 Engin Managemen puter Scien	J/DAU, s ysis/FFT, systems (i	ampling mC, DSP

7	Prerequisite for the award of credit points:
	Module examination pass and course assessment
8	Application of the module (in the following study programmes)
	Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng., Mechatronics B.Sc. and
	Industrial Engineering and Management B.Sc.
9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. DrIng. Joachim Waßmuth
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Inte	rnational M	Ianagement/N	Iarketing						IMM		
Iden num	tification ber:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duratio	on:	
111		150 h	5	5 6th se		semester		Annual (Summer)		1 semester	
1	Course:		Planned group s	Scop	e	Actual of / classro teaching		Self-stuc	Self-study		
	Lecture		60 students		2	SCH	32	h	43	h	
	Tuition in	n seminars	30 students		2	SCH	32	h	43	h	
	Exercise		20 students		0	SCH	0	h	0	h	
	Practical	or seminar	15 students		0	SCH	0	h	0	h	
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h	
2	Learning	outcomes/comp	petences:			-	1	<b>1</b>			
	•	knowledge of apply the spo and case studeritically ref recapitulate study. Ideall	special features of principles mark ecial features and dies and independent lect on the special the course context, they will form	tasks of dently so dent inde	equired internolve the es and the penden	in other ational r associa tasks of ttly and	r courses a marketing to ated tasks a internation deepen th	nd identify to selected p and present nal marketin neir knowle	difference oractical of the resulting. adge thro	ees. examples ts. ugh self-	
3	•	tion to International International Environmen Risk analysi Planning ma Market entry Marketing in	s rketing objective	Co-ordin							
4		teaching: seminar-base	d teaching with e	xercises	, case s	studies/	case studie	es			
5		tion requiremen									
	Formal: Content:	None Knov	e wledge of the cor	ntents of	the mo	odule Ma	arketing (1	143)			
		Knov	wledge of Englisl								
	Forms of	assessment:									
5	Written	examination									
5  7		examination	d of credit points:								

8	Application of the module (in the following study programmes)
	Engineering Computer Sciences B.Eng., Mechatronics B.Sc. and Industrial Engineering and
	Management B.Sc.
9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. Dr. rer. oec. Klaus Rüdiger
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Inve	stment and	Financing								FIN	
	tification	Workload	: Cred	dits:	Study	semes	ter:	Frequenc offer	y of the	Duratio	on:
num 1113		150 h			2nd, seme		or 6th		(Summer)	1 semester	
1	Course:		Planned	group si	izes	Scop	e	Actual time / c teachin	lassroom	Self-stuc	ly
	Lecture	Lecture		ents		3	SCH	45	h	67.5	h
	Tuition in	seminars	30 stude			1	SCH	15	h	22.5	h
	Exercise		20 stude	ents		0	SCH	0	h	0	h
		or seminar	15 stude			0	SCH	0	h	0	h
	Supervise	d self-study	60 stude	ents		0	SCH	0	h	0	h
2	Learning	outcomes/co	ompetences:			<u> </u>	1			<u> </u>	
	finance a	and can cla	ractical impl					ropriate fo		ancing to	different
3	Contents:	g the suitab	pility of the re	espectiv	ve forms	of fin		ng costs	and make	justified	decisions
3	Contents:	g the suitab Basic conce Methods of	epts of invest	tment at	nd finan	cing		ng costs	and make	justified	decisions
3	Contents:	g the suitab  Basic conce  Methods of  Methods of	epts of invest	tment attment cavestment	nd finan	cing		ng costs	and make	justified	decisions
3	Contents:	Basic conce Methods of Forms of ex	epts of invest	tment attment cavestmen	nd finan	cing		ng costs	and make	justified	decision
	Contents:	Basic conce Methods of Methods of Forms of ex	epts of invest	tment attment cavestmen	nd finan	cing		ng costs	and make	justified	decisions
3	Contents:  Output  Forms of	Basic conce Methods of Methods of Forms of ex Forms of in teaching:	epts of invest static invest dynamic investernal finance	tment attment cavestment	nd finan	cing		ng costs	and make	justified	decisions
4	Contents:	Basic conce Methods of Methods of Forms of ex Forms of in teaching:	epts of invests static invests dynamic investernal finance	tment attment cavestment	nd finan	cing		ng costs	and make	justified	decision
4	Contents:	Basic conce Methods of Methods of Forms of ex Forms of in teaching: seminar-ba	epts of invests static invests dynamic investernal finance	tment attment carrier cong	nd finan alculation at calcul	cing on ation	ancing.				
4 5	Contents:  Contents:  Forms of Lecture, Participat Formal: Content:	Basic conce Methods of Methods of Forms of ex Forms of in teaching: seminar-ba	epts of invests static invests dynamic investernal finance ased teaching ments:	tment attment carrier cong	nd finan alculation at calcul	cing on ation	ancing.				
4 5	Contents:  Contents:  Forms of Lecture, Participat Formal:  Content:	Basic conce Methods of Methods of Forms of in teaching: seminar-basion requiren King assessment:	epts of invests static invests dynamic investernal finance ased teachingments:  nowledge of 1024)	tment attment categories congcing	nd finan alculation alculation t calculation	cing on ation	odule Ge	eneral Bus	iness Adm	inistration	(1002
5	Contents:  Contents:  Forms of Lecture, Participat Formal: Content:  Forms of Written of Prerequising Module of the content of	Basic conce Methods of Methods of Forms of in teaching: seminar-ba ion requirem  Ki or assessment: examination ite for the ave	epts of invest static invest dynamic invested ternal finance ternal finance ternal finance ased teaching terns: nowledge of 1024)	tment and timent can westment conguing cing cing con exampoints:	nd finan alculation alculation	cing on ation	odule Ge	eneral Bus	iness Adm	inistration	(1002
4 5 6	Contents:  Contents:  Forms of Lecture, Participat Formal: Content:  Forms of Written of Prerequisis Module of Application Engineer	Basic conce Methods of Methods of Forms of ex Forms of in teaching: seminar-basion requirer Kr or assessment: examination ite for the ave examination on of the mo	epts of invest static invest dynamic investernal finance ternal fi	tment attment cavestment cing cing  The control on exampoints:	nd finan alculation at calculation	cing on ation	odule Ge	eneral Bus	iness Adm on or oral e	inistration	n (1002
4 5 6 7 8	Contents:	Basic conce Methods of Methods of Forms of ex Forms of in teaching: seminar-basion requirem Knor assessment: examination ite for the avexamination on of the morning Compu- ment B.Sc.	epts of invest static invest dynamic invest ternal finance ased teaching ments:  nowledge of 1024)  n, combination and credit in pass before the finance defor the finance deformance d	tment attment cavestment cing cing  The con on exampoints:	nd finan alculation at calculation	cing on ation	odule Ge	eneral Bus	iness Adm on or oral e	inistration	n (1002
<ul><li>4</li><li>5</li><li>6</li><li>7</li><li>8</li><li>9</li></ul>	Contents:	Basic conce Methods of Methods of Forms of ex Forms of in teaching: seminar-basion requirer Kroor assessment: examination in the average of the mo- cing Compu- ment B.Sc.	epts of invest static invest dynamic invest ternal finance ased teaching ments:  nowledge of 1024)  n, combination and credit in pass before the finance defor the finance deformance d	tment attment cavestment cing cing  The con on exampoints:	nd finan alculation at calculation	cing on ation	odule Ge	eneral Bus	iness Adm on or oral e	inistration	n (1002
	Contents:  Contents:  Forms of Lecture, Participat Formal: Content:  Forms of Written of Prerequist Module of Application Engineer Manager Important accordin Module of	Basic conce Methods of Methods of Forms of ex Forms of in teaching: seminar-basion requirem ————————————————————————————————————	epts of invest static invest dynamic invest ternal finance ased teaching ments:  nowledge of 1024)  n, combination and credit in pass before the finance defor the finance deformance d	tment and timent can westment conguing conguing con exampoints:  on exampoints:  ollowing as B.Eng.	nd finan alculation alculation at calculation mination study pr	cing on ation	odule Ge	eneral Bus	iness Adm on or oral e	inistration	n (1002

Colle	vanium.								KOL	
Conc	oquium								KOL	
Identi	ification	Workload:	Credits:	Stud	y semes	ter:	Frequence	cy of the	Duratio	on:
1290		90 h	3	6th sem	6th or 7th semester		each semester			
1	Course:		Planned group	sizes	Scop	e		contact time oom teaching	Self-stud	dy
	Lecture		60 students		0	SCH	0	h	90	h
	Tuition in	seminars	30 students		0	SCH	0	h	0	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	The collection candidate thesis, it	e is capable o s subject-rel	be assessed as of orally presenti- lated foundation its significance	ng and in ns, its in	depend terdisci	ently jus plinary	stifying th connection	e scientific to	opic of th	e bachelor
3	Contents:									
	- Co	ntent of the	thesis according	to the to	pic					
			the procedure in		-	of the th	hesis and	the question	s that arc	se in the
		ntext of the t	hesis							
4	Forms of t	_								
			the bachelor the	esis						
5	•	on requireme								
	Formal:	Nor	ne atment of the ba	ahalan th	i-					
6	Content:	assessment:	aument of the ba	chelor th	esis					
0	Oral exa									
7			rd of credit points	3:						
8	Application	on of the mod	ule (in the followi	no study r	rogrami	nes)				
0			es B.Sc., Appa				RSc FI	ectrical End	oineering	R Fng
			ter Sciences B							
			B.Eng. and Indu						0111	,
	B.Sc.									
9	•		for the final grad	le:						
10		g to BRPO oordinator:								
10		-Ing. Anton	Klar							
11	Other info		<del></del>							
			ounced at the be	eginning	of the c	ourse.				
12	Language									
	German									

Cons	struction									KON		
	ification	Workl	oad:	Credits:	Study	semest	er:	Frequency	of the	Duratio	n:	
numb 1124		150 h		5	2nd s	emeste	er	offer Annual (S	Summer)	1 seme	ester	
1	Course:		]	l Planned group s	sizes	Scope	е		ontact time om teaching	Self-stud	ly	
	Lecture		(	50 students		2	SCH	30	h	45	h	
	Tuition in	seminar	rs 3	30 students		1	SCH	15	h	22.5	h	
	Exercise		2	20 students		0	SCH	0	h	0	h	
	Practical	or semina	ar	15 students		1	1 SCH	SCH	15	h	22.5	h
	Supervise	d self-stu	udy (	60 students		0	SCH	0	h	0	h	
2	Learning	outcome	s/compete	ences:		<u> </u>		1			1	
	They have for compapropriate appropriate the way methodo. The course	ve maste oletion. ' ately as insights designs logies g rse enat	They are an assen s into cur are presentained.	accordance w kill of drawing able to integrably drawing. rrent design exented and con ents to independent.	g construrate seve xamples, nmunicat	ctions ral cor you w ed and	as indivingonent ill be all indepe	idual part of s in a const ble to grasp ndently wo	o the praction or the practic	d to preso cal signifi designs t	ent them cance of using the	
3	Contents:											
J	<ul><li>Standa</li><li>Techni</li><li>Tolera</li><li>Shape</li><li>Repres</li></ul>	ardisation ical dravences and possentation sentation springs uction t	wing, dind distributed fits sittion tole of comparts of works and screen	plete construc xpieces in indi	d surface	ıssemb						
4	Forms of			1.								
	Lecture,	seminar	r-based to	eaching, pract	ical cour	se						
5	Lecture, Participat	seminar	r-based to rements:	eaching, pract	ical cour	se						
	Lecture, Participat Formal:	seminar	r-based to rements: None	eaching, pract	ical cour	se						
	Lecture, Participat	seminar ion requi	r-based to rements: None None	eaching, pract	ical cour	se						
5	Lecture, Participat Formal: Content: Forms of	seminar ion requi	r-based to irements: None None ent:	eaching, pract			oral exa	mination o	r examinati	on during	g the	
5	Lecture, Participat Formal: Content: Forms of Term par course	assessme	r-based to rements:  None  None ent:  formance	e examination,			oral exa	mination o	r examinati	on during	; the	
5	Lecture, Participat Formal: Content: Forms of Term par course Prerequise	assessme	r-based to rements:  None  None  ent:  formance  award o	e examination,	, project	work, o	oral exa	mination o	r examinati	on during	g the	
5 6 7	Lecture, Participat Formal: Content: Forms of Term par course Prerequis: Module of	assessme per, perfite for the examina	r-based to rements:  None  None ent: formance e award o attion pass	e examination, f credit points: s and course a	, project	work, o		mination o	r examinati	on during	y the	
5	Lecture, Participat Formal: Content: Forms of Term par course Prerequise Module of Application	assessme per, perf ite for the examina on of the	None None None ent: formance award o ation pass module (	e examination, f credit points: s and course a in the following	ssessmen	work, o		mination o	r examinati	on during	g the	
5 6 7 8	Lecture, Participat Formal: Content: Forms of Term pay course Prerequise Module of Application Industria	assessme per, perfete for the examina on of the	None None None ent: formance e award o ation pass module ( eering an	e examination, f credit points: s and course a in the following d Managemen	ssessmer g study pront B.Sc.	work, o		mination o	r examinati	on during	g the	
5 6 7	Lecture, Participat Formal: Content: Forms of Term par course Prerequise Module of Application Industrial	assessme per, perfite for the examina on of the Il Engine	r-based to rements:  None None ent: formance e award oution pass module ( eering an grade for	e examination, f credit points: s and course a in the following	ssessmer g study pront B.Sc.	work, o		mination o	r examinati	on during	; the	
5 6 7 8	Lecture, Participat Formal: Content: Forms of Term pay course Prerequise Module of Application Industria	assessme per, perfite for the examina on of the Il Engine ee of the g to BR	r-based to rements:  None None ent: formance e award of ation pass module ( eering an grade for PO	e examination, f credit points: s and course a in the following d Managemen	ssessmer g study pront B.Sc.	work, o		mination o	r examinati	on during	g the	

11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Cost	and Perfo	ormance A	Accountii	ng						KUL	
Ident numl	ification er:	Worklo	ad:	Credits:	Study	Study semester:			Frequency of the offer		on:
1130	)	150 h		5	3rd seme	or	5th	Annual (Winter)		1 seme	ester
1	Course:		P	lanned group s	sizes	Scop	e	Actual of / classro teaching		Self-stud	ly
	Lecture		60	0 students		2	SCH	30	h	45	h
	Tuition in	n seminars	30	30 students		2	_	30	h	45	h
	Exercise		20	0 students		0	SCH	0	h	0	h
	Practical	or seminar	r 1:	15 students 60 students		0	SCH	0	h	0	h
	Superviso	ed self-stud	dy 60			0	SCH	0	h	0	h
	1. 1	agamst C	ach othei	r. Through th	ne targete	ed pron	notion of	f analytica	es of differe l and netwo	rked thin	king, the
2	decision	ronounce n-making	d cost aw	areness. The	ne targete	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
3	Contents	ronounce n-making s	d cost aw situation:	vareness. The	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
3	Contents - Basics	ronounce n-making s : : : s of cost a	d cost aw situation:	areness. The	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
3	Contents - Basics - Cost-t	: : s of cost a	d cost aw situations and perfo unting	vareness. The	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
3	Contents - Basics - Cost-t	: : s of cost a type accounit accou	d cost aw situations and perfo unting	vareness. The	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
3	Contents - Basics - Cost t - Cost t - Cost t	: s of cost a stype accounit accouncesting unit time a	d cost aw situations and perfo unting accounting	rmance acco	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
3	Contents - Basics - Cost t - Unit c - Cost t - Cost a	: s of cost a type accounit accounting and time accounting and time accounting	and perfounting	rmance acco	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
	Contents - Basics - Cost t - Unit c - Cost t - Cost a - Decision	: s of cost a cype accounit accounting unit time a accounting ion-orient	and perfounting	rmance acco	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
3	Contents - Basics - Cost t - Forms of	eronounce n-making s as of cost a type accounit accounting unit time a accounting ion-orient feaching:	and perfounting accounting systems ged cost a	rmance acco	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
	Contents - Basics - Cost t - Cost t - Cost a - Decisi Forms of Lecture,	: s of cost a cype accounit accounting unit time a accounting ion-orient	and perfounting accounting systems acd cost a based tea	rmance acco	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
4	Contents - Basics - Cost t - Cost t - Cost a - Decisi Forms of Lecture,	: s of cost a type accounit accounting unit time a accounting ion-orient teaching: seminar-	and perfounting accounting systems acd cost a based tea	rmance acco	e targete ey are abl	ed pron	notion of	f analytica	l and netwo	rked thin	king, the
4	Contents - Basics - Cost t - Cost t - Cost t - Cost a - Decisi Forms of Lecture, Participa Formal: Content:	: s of cost a type accounit accounting ion-orient teaching: seminar-tion require	and perfounting accounting accoun	rmance acco	ne targete ey are abl	ed pron	notion of velop an	f analytica d present t	l and netwo	rked thin	king, the
4 5	Contents - Basics - Cost t - C	s of cost a type accouning accounting ion-orient accounting is seminar-tion require	and performating accounting accounting abased teaments:  None The modult:	rmance acco	e targete ey are abl	ed pron le to de	nistratio	f analytica d present t	l and netwo heir own so	been cor	npleted
4 5 6	Contents - Basics - Cost t - Unit c - Cost a - Decisi Forms of Lecture, Participa Formal: Content: Forms of Written	eronounced and a second and accounting and accounting and accounting and accounting and accounting a seminar-tion requirement.	and performating accounting accou	rmance acco	e targete ey are abl	ed pron le to de	nistratio	f analytica d present t	l and netwo heir own so	been cor	npleted
4 5 6	Contents - Basics - Cost t - Cost t - Cost a - Decisi Forms of Lecture, Participa Formal: Content: Forms of Written Prerequis	eronounced a-making statement of the sta	and performance of the moderate ion, comaward of	rmance acco	e targete ey are abl	ed pron le to de	nistratio	f analytica d present t	l and netwo heir own so	been cor	npleted
4 5 6	Contents - Basics - Cost t - Cost t - Cost a - Decisi Forms of Lecture, Participa Formal: Content: Forms of Written Prerequis Module	: s of cost a type accounit accounting ion-orient teaching: seminar-tion require examinat site for the examinat	and performance of the modern	rmance acco	Business	ed pron le to de	nistratio	f analytica d present t	l and netwo heir own so	been cor	npleted
4 5 6	Contents - Basics - Cost t - Cost t - Cost o - C	: s of cost a type accounit accounting ion-orient feaching: s seminar-tion require examinat site for the examinat ion of the r	and performating accounting accou	rmance acco	Business mination g study pr	s Admi	nistratio rmance	n (1002) s	hould have	been cor	npleted
4 5 7 8	Contents - Basics - Cost t - Cost t - Cost t - Cost o - C	sof cost a type accounit accounting ion-orient feaching: a seminartion require examinat site for the examinat ion of the reging Com	and performanting accounting acco	rmance acco	Business mination g study pr	s Admi	nistratio rmance	n (1002) s	hould have	been cor	npleted
4 5 6	Contents - Basics - Cost t - C	sof cost a type accounit accounting ion-orient feaching: a seminartion require examinat site for the examinat ion of the reging Com	and performance of the module (in puter Sc grade for the module (in puter	rmance acco	Business mination g study pr	s Admi	nistratio rmance	n (1002) s	hould have	been cor	npleted
4 5 7 8	Contents - Basics - Cost t - Cost t - Cost a - Decisi Forms of Lecture, Participa Formal: Content: Forms of Written Prerequis Module Applicati Enginee Importan accordin	: s of cost a type accounit accounting ion-orient teaching: s seminar-tion require examinat site for the examinat ion of the retring Comice of the g	and performance of the module (in payer Scrade for the CO	rmance acco	Business mination g study pr	s Admi	nistratio rmance	n (1002) s	hould have	been cor	npleted

11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

	istics								LOG	
Iden:	tification ber:	Workload:	Credits:	Stud	y semest	er:	Frequency offer	y of the	Durati	on:
1142		150 h	5	4th	semeste	r		Summer)	1 sem	ester
1	Course:		Planned group s	sizes	Scope	e	Actual of / classro teaching		Self-stu	dy
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	n seminars	30 students		2	SCH	30	h	45	h
									0 0	
	Exercise		20 students		0	SCH	0	h		h
	Practical	or seminar	15 students		0	SCH	0	h		h
	Superviso	ed self-study	60 students		0	SCH	0	h	0	h
3	Contents									
	<ul> <li>Logist</li> <li>Suppl</li> <li>Multin</li> <li>Opera</li> <li>Procu</li> <li>Warel</li> <li>Order</li> <li>Produ</li> <li>Distril</li> <li>Analy</li> <li>Key fi</li> </ul>	tics planning a y chain manag modal transpor- tional logistics rement logistics nouse logistics picking ction logistics bution logistics sis and calculated	rt systems s es							
4	Lecture,		d teaching with e	exercise	s					
-	Formal:	None None	е							
-	Content:									
5	Forms of	None assessment:		minatio	n nerfo	rmance	evaminati	on or oral o	vaminati	on
5	Forms of Written Prerequis	assessment: examination, cite for the awar	combination examed of credit points:	minatio	n, perfo	rmance	examinatio	on or oral ex	xaminati	on
6	Forms of Written Prerequis Module Application	assessment: examination, on the award examination properties on of the module of the m	combination example of credit points:  bass le (in the following	g study p	rogramn		examinatio	on or oral e	xaminati	on
5 6 7 8	Forms of Written Prerequis Module Applicati Industria Importan	assessment: examination, one of the modulated and Engineering ce of the grade is	combination example of credit points:	g study p nt B.Sc.	rogramn		examinatio	on or oral e	xaminati	on
5 6 7 8	Forms of Written Prerequis Module Applicati Industria Importan accordir	assessment: examination, one of the modulated and Engineering	combination example of credit points: bass le (in the following and Management	g study p nt B.Sc.	rogramn		examinatio	on or oral ex	xaminati	on
5 6 7 8	Forms of Written Prerequis Module Applicati Industria Importan accordir Module of Prof. Dr	assessment: examination, one of the modulated Engineering ce of the grade ing to BRPO	combination example of credit points: bass le (in the following and Management for the final grade:	g study p nt B.Sc.	rogramn		examinatio	on or oral e	xaminati	on

Mar	keting								MK1	
Iden num	tification	Workload:	Credits:	Stud	y semes	ter:	Frequenc	ey of the	Duratio	on:
114		150 h	5	3rd	semeste	er		(Winter)	1 sem	ester
1	Course:		Planned group s	sizes	Scop	e	Actual / classr teachin		Self-stud	dy
	Lecture		60 students		3	SCH	45	h	67.5	h
	Tuition in	n seminars	30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
2		outcomes/com					<u> </u>		<u> </u>	
3	Contents	: Market analy:	and market deve	ng techn	iques					business-
4	•	-	ipant-orientated i keting budgeting		-	_	ing			
			ed teaching with e	exercise	s					
5	Participation Formal:	tion requiremen	nts:							
	Content:	Kno or 1	wledge of the cor	ntents o	f the m	odule Ge	eneral Bus	siness Adm	inistratior	1 (1002
6		assessment:	•	main at	m	<b></b>	owo	on c 1		
7			combination example combination example combination example combined as a combined combined combination example combinatin example combination example combination example combination exa	ınınatıo	n, perto	rmance	examınatı	on or oral e	examinatio	on
		examination j				,				
8			lle (in the following		_	nes)				
9			g and Management for the final grade:							
,		g to BRPO								
10	Module o	coordinator:								
	Prof. Dr	rer. pol. Hilo	legard Manz-Sch	umache	er					
11		ormation: re will be ann	ounced at the beg	ginning	of the c	ourse.				
				,						
12	Language	e:								

Mec	hanical Ma	achine Compo	onents						ME		
	ification	Workload:	Credits:	Study	semes	ter:	Frequency of the		Duration:		
num    127		150 h	5	3rd s	emeste	er	offer Annual (	Winter)	1 seme	ester	
1	Course:		Planned group s	roup sizes Scope		Actual contact time / classroom teaching		Self-study			
	Lecture		60 students		2	SCH	30	h	45	h	
	Tuition in	seminars	30 students		1	SCH	15	h	22.5 0 22.5	h	
	Exercise		20 students		0	SCH	0	h		h	
	Practical	or seminar	15 students		1		15	h		h	
	Supervised self-study		60 students		0	SCH	0	h	0	h	
2	Learning outcomes/competences:										
	Students	:									
	• ]	types have mastered	d the analysis and	l calcula	tion m	ethods fo	or strength	calculation			
	6	<ul> <li>can use these appropriately and calculate and design the machine components using engineering methods.</li> <li>are able to grasp the practical significance of machine components and evaluate design</li> </ul>									
	alternatives in engineering terms using the methodologies gained										
	<ul> <li>are capable of independent engineering thinking and work in mechanical engineering fields of application.</li> </ul>										
3	Contents:										
	• ]	Loads, stresse	es								
	• ;	Strength calci	ulations								
	• ]	Bolt and pin o	connections								
		Bolted connection									
		Locking elem									
		Axles and sha									
	• !	Shaft-hub cor	nections								
			ring arrangement	s and se	als						
1	Forms of										
	Lecture,	seminar-base	ed teaching with e	exercises	, pract	ical cour	se				
5	Participat	ion requiremen									
	Formal:	Non									
	Content:	Non	e								
ó		assessment:	1.							,	
			combination exa	mination	, perfo	rmance	examinatio	on, project v	work or o	ral	
7	examina Prerequis		rd of credit points:								
	_		pass and course a	ssessme	nt						
3			le (in the following			nes)					
			g and Managemen								
)			for the final grade:								
		g to BRPO									
10		oordinator:									
		-Ing. Michae	l Fahrig								
1	Other info										
	Literatur	e will be ann	ounced at the beg	ginning c	of the c	ourse.					

Identification   Norkload:   Credits:   Study semester:   Frequency of the offer   Annual (Winter)   1 semest	
1151	
Course:	ter
Lecture 60 students 2 SCH 30 h 45  Tuition in seminars 30 students 2 SCH 30 h 45  Exercise 20 students 0 SCH 0 h 0  Practical or seminar 15 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences: Students are familiar with the most important function classes. They can apply methods of diff and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  3 Contents:  - Sets and numeral systems - Functions and inverse functions - Important function classes - Complex numbers - Limit value and continuity - Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: Knowledge of school mathematics  6 Forms of assessment: Written examination  7 Prerequisite for the award of credit points: Module examination pass  8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade: according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
Lecture 60 students 2 SCH 30 h 45  Tuition in seminars 30 students 2 SCH 30 h 45  Exercise 20 students 0 SCH 0 h 0  Practical or seminar 15 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences: Students are familiar with the most important function classes. They can apply methods of diff and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  Contents: Sets and numeral systems Functions and inverse functions Important function classes Complex numbers Limit value and continuity Derivation and curve discussion Integration Taylor polynomials  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
Tuition in seminars 30 students 2 SCH 30 h 45  Exercise 20 students 0 SCH 0 h 0  Practical or seminar 15 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences:  Students are familiar with the most important function classes. They can apply methods of dif and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  3 Contents:  - Sets and numeral systems - Functions and inverse functions - Important function classes - Complex numbers - Limit value and continuity - Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching: Lecture, seminar-based teaching with exercises  5 Participation requirements: Formal: None Content: Knowledge of school mathematics  6 Forms of assessment: Written examination  7 Prerequisite for the award of credit points: Module examination pass  8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade: according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
Exercise 20 students 0 SCH 0 h 0 Practical or seminar 15 students 0 SCH 0 h 0 Supervised self-study 60 students 0 SCH 0 h 0 Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences: Students are familiar with the most important function classes. They can apply methods of difficult and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  Contents: Sets and numeral systems Functions and inverse functions Important function classes Complex numbers Limit value and continuity Derivation and curve discussion Integration Taylor polynomials Forms of teaching: Lecture, seminar-based teaching with exercises Participation requirements: Formal: None Content: Knowledge of school mathematics Forms of assessment: Written examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade: according to BRPO Module coordinator: Prof. Dr. rer. nat. Georgios Lajios Literature will be announced at the beginning of the course.	h
Practical or seminar 15 students 0 SCH 0 h 0  Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences: Students are familiar with the most important function classes. They can apply methods of dif and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  Contents:  Sets and numeral systems Functions and inverse functions Important function classes Complex numbers Limit value and continuity Derivation and curve discussion Integration Taylor polynomials  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  University of the course.	h
Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences: Students are familiar with the most important function classes. They can apply methods of diff and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  Contents: Sets and numeral systems Functions and inverse functions Important function classes Complex numbers Limit value and continuity Derivation and curve discussion Integration Taylor polynomials  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  University of the course.	h
Learning outcomes/competences:  Students are familiar with the most important function classes. They can apply methods of diff and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  Contents:  Sets and numeral systems  Functions and inverse functions  Important function classes  Complex numbers  Limit value and continuity  Derivation and curve discussion  Integration  Taylor polynomials  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	h
Students are familiar with the most important function classes. They can apply methods of dif and integral calculus confidently. They can model simple engineering and economic proble derive solutions from them.  3	h
- Sets and numeral systems - Functions and inverse functions - Important function classes - Complex numbers - Limit value and continuity - Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching: Lecture, seminar-based teaching with exercises  5 Participation requirements: Formal: None Content: Knowledge of school mathematics  6 Forms of assessment: Written examination  7 Prerequisite for the award of credit points: Module examination pass  8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade: according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
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- Functions and inverse functions - Important function classes - Complex numbers - Limit value and continuity - Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching: Lecture, seminar-based teaching with exercises  5 Participation requirements: Formal: None Content: Knowledge of school mathematics  6 Forms of assessment: Written examination  7 Prerequisite for the award of credit points: Module examination pass  8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade: according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
- Important function classes - Complex numbers - Limit value and continuity - Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching:     Lecture, seminar-based teaching with exercises  5 Participation requirements: Formal: None     Content: Knowledge of school mathematics  6 Forms of assessment:     Written examination  7 Prerequisite for the award of credit points:     Module examination pass  8 Application of the module (in the following study programmes)     Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade:     according to BRPO  10 Module coordinator:     Prof. Dr. rer. nat. Georgios Lajios  11 Other information:     Literature will be announced at the beginning of the course.	
- Complex numbers - Limit value and continuity - Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching:     Lecture, seminar-based teaching with exercises  5 Participation requirements:     Formal: None     Content: Knowledge of school mathematics  6 Forms of assessment:     Written examination  7 Prerequisite for the award of credit points:     Module examination pass  8 Application of the module (in the following study programmes)     Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade:     according to BRPO  10 Module coordinator:     Prof. Dr. rer. nat. Georgios Lajios  11 Other information:     Literature will be announced at the beginning of the course.	
- Limit value and continuity - Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching: Lecture, seminar-based teaching with exercises  5 Participation requirements: Formal: None Content: Knowledge of school mathematics  6 Forms of assessment: Written examination  7 Prerequisite for the award of credit points: Module examination pass  8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade: according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
- Derivation and curve discussion - Integration - Taylor polynomials  4 Forms of teaching: Lecture, seminar-based teaching with exercises  5 Participation requirements: Formal: None Content: Knowledge of school mathematics  6 Forms of assessment: Written examination  7 Prerequisite for the award of credit points: Module examination pass  8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade: according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
- Taylor polynomials  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
- Taylor polynomials  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
Lecture, seminar-based teaching with exercises    Participation requirements:   Formal:   None	
Formal: None Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
Formal: Knowledge of school mathematics  6 Forms of assessment: Written examination  7 Prerequisite for the award of credit points: Module examination pass  8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  9 Importance of the grade for the final grade: according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
Content: Knowledge of school mathematics  Forms of assessment: Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
6 Forms of assessment: Written examination 7 Prerequisite for the award of credit points: Module examination pass 8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. 9 Importance of the grade for the final grade: according to BRPO 10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios 11 Other information: Literature will be announced at the beginning of the course.	
Written examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
7 Prerequisite for the award of credit points: Module examination pass 8 Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. 9 Importance of the grade for the final grade: according to BRPO 10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios 11 Other information: Literature will be announced at the beginning of the course.	
Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade: according to BRPO  Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
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according to BRPO  10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
10 Module coordinator: Prof. Dr. rer. nat. Georgios Lajios  11 Other information: Literature will be announced at the beginning of the course.	
Prof. Dr. rer. nat. Georgios Lajios  Other information: Literature will be announced at the beginning of the course.	
Other information: Literature will be announced at the beginning of the course.	
Literature will be announced at the beginning of the course.	
12 20000000	
German	

Mat	hematics 2								MA2	
Ident	tification ber:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duratio	on:
1157	7	150 h	5	2nd s	semeste	er	Annual (S	Summer)	1 seme	ester
1	Course:		Planned group size	zes	Scope	e	Actual control / classroot teaching	ontact time	Self-stuc	ly
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	The stud	ifferential equ	ethods of linear a lations confidently thods and derive	y. They	can m	odel en				
3	Contents:									
3			nmetic operations	i+la	antoma a	and mate				
		aigeora. Ariu is of linear eq	-	willi ve	Ct018 6	ma man	ices			
		alues and eig								
			us with applicatio	ns						
			erential Equations							
4	Forms of		•							
	Lecture,	seminar-based	d teaching							
5	Participat	ion requiremen	ts:							
	Formal:	None								
	Content:		wledge of the mod	dule Ma	themat	ics 1 (1	151)			
6		assessment:								
		examination	d of anoditit-							
7	•	examination p	d of credit points:							
8			e (in the following	study pr	Ogramn	nes)				
o			and Management		Siamin	100)				
9			for the final grade:							
		g to BRPO								
10		oordinator:								
		rer. nat. Geor	gios Lajios							
11	Other info				0.1					
10			unced at the begi	nning o	t the co	ourse.				
12	Language									
	German									

Metr	ology									MT	
Ident	ification ber:	Worklo	oad:	Credits:	Study	semest	er:	Frequenc	y of the	Duratio	n:
1168	<b>,</b>	150 h		5	3rd s	emeste	r	Annual (Winter)		1 seme	ester
1	Course:		P	lanned group si	zes	Scope	e		contact time om teaching	Self-stuc	ly
	Lecture		6	0 students		2	SCH	30	h	45	h
	Tuition in	seminar		0 students		1	SCH	15	h	22.5	h
	Exercise		2	20 students		0	SCH	0	h	0	h
	Practical or seminar			15 students		1	SCH	15	h	22.5	h
	Supervised self-study  Learning outcomes/com		vised self-study 60 students				SCH	0	h	0	h
3	contents:	of mea	developr	possible disturnent of a comp	outer-as	sisted s	system for a syste	or process	guipment, n	ed values	ent errors
	general a current,	spects f voltage	or the se and po	es, disturbance lection and us wer measurer measurement	e of me nent, le	asuring ength,	g transdı angle a	ucers, tim nd strain	e and frequ measurem	ency mea	surement e, torque
4	Forms of	teaching	,								
7		_		aching with ex	xercises	and pr	oject tas	sks, practi	cal course		
5	Participati	on requi	rements:								
	Formal:		None								
	Content:		None								
6	Forms of	assessme	ent:								
	Written e	xamina	tion, com	nbination exan	nination	, perfo	rmance	examinati	on or oral e	xaminatio	n
7				credit points: and course as	sessmei	nt					
				n the following			nes)				
8				y B.Sc., Mech				ıstrial Eng	gineering an	d Manag	ement
8	Apparati	ve blok									
	Apparati B.Sc.		grade for t	the final grade							
	Apparation B.Sc.	e of the		the final grade:							
9	Apparati B.Sc. Importance according Module co	e of the g to BR	PO or:								
9	Apparati B.Sc. Importance according Module co Prof. Dr.	e of the g to BR pordinate Dr. And	PO or: drea Ehrr								
	Apparati B.Sc. Importance according Module co Prof. Dr. Other info	e of the g to BR poordinate Dr. Anormation:	PO or: drea Ehrr	nann		£ 41-					
9	Apparati B.Sc. Importance according Module co Prof. Dr. Other info	e of the g to BR pordinate Dr. And presention:	PO or: drea Ehrr		nning o	f the co	ourse.				

	cal System	s Engineer	ring						OST	
Ident numb	ification per:	Workload	l: Credits:	Study	semest	er:	Frequency of the offer		Duration:	
1300		150 h	5	6th se		r	Annual (	Summer)	1 seme	ester
1	Course:		Planned group	o sizes	Scope	2	Actual c / classro teaching		Self-stuc	ly
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students	30 students		SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		1	SCH	15	h	22.5	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
3	impleme	ntation in oth theoret	ic application un automated productically and practica	ction. Fur	thermo	re, the l	handling o	of different	optical s	ystems i
	- Fu - Ph - Sr - Li - M - Se - Co - In - Se - Tv	indamental hysical propart sensor ghting and achine visiblected filte blour image terfaces for elected real wo-dimens	etween image products of optical system perties of light / are and cameras coptics from software ers and special soft e processing and ser communication valife application exiting and verification and verification and verification and serious and verification and serious and serious constitutions are communication exiting and verifications and serious are constituted as a serious constitution and serious are constituted as a serious constitution and serious constitutions are constituted as a serious constitution and serious constitutions are constituted as a serious constitution and serious constitutions are constituted as a serious constitution and serious constitutions are constituted as a serious constitution and serious constitutions are constitutions as a serious constitution and serious constitutions are constitutions are constituted as a serious constitution and serious constitutions are constitutions as a serious constitution and serious constitutions are constitutions as a serious constitution and serious constitutions are constitutions as a serious constitution and serious constitutions are constitution as a serious constitution and serious constitutions are constitutions as a serious constitution and constitut	tware tool: pectroscop with mach xamples o rding and	ring lication  S  by ine con f the va	n of opti trols urious se	cal system	es		n
4	Forms of Lecture.		ased teaching, prac	ctical cour	se					
5	Participat Formal:	ion requirer N	nents:	2041	-					
6		assessment	one ination, performan	nce exami	nation o	or oral e	xamination	1		
7	Prerequis	ite for the a	ward of credit points on pass and course	s:						
			odule (in the following			nes)				
8	rippiican						ering and l	Managemei	nt B.Sc.	
8		ring Comp	uter Sciences B.Er	ig. and in			_			
	Engineer		uter Sciences B.Ernde for the final grad							
9	Engineer Important accordin	ce of the grag	de for the final grad							
	Engineer Important accordin Module c	ce of the grage g to BRPC coordinator:	de for the final grad	e:						

Pers	sonnel and (	Organisation						PUO	
Iden num	tification ber:	Workload:	Credits:	Study sem	ester:	Frequenc offer	y of the	Duratio	on:
1192	2	150 h	5	4th c	r 6th	Annual (	(Summer)	1 seme	ester
1	Course:		Planned group s	sizes Sc	ope	Actual / classre teachin		Self-stud	ly
	Lecture		60 students	3	SCH	45	h	67.5	h
	Tuition in	seminars	30 students	1	SCH	15	h	22.5	h
	Г.		20 1 1	0	COLL	0	1	0	1
	Exercise	or seminar	20 students 15 students	0	SCH SCH	0	h h	0	h h
									h
	Supervised self-study 60 students 0 SCH 0 h 0  Learning outcomes/competences:								
3	They can practical applicable They are entrepred They have demonstrated.	examples. T ility. familiar with neurial activity we basic know	principles of or, hey can use principles of or, hey can use principles of or, and the principles of order or, and the principles or order	mary and sec s of organisa characteristi	condary or tional cha	rganisation  nge and ca  nificance o	al forms w in assess the of key quali	ith regard Fir signifi fications	to the cance for and have
3	Fundame Fundame	nce, goals an entals of labor entals of Com		resources m	anagemer	nt			
	Environr Organisa Organisa Personne	tional structu tional change el managemer	ions, learning cor re and process or	rganisation, f		_	_	organisat	ion
4	Environr Organisa Organisa Personne	mental conditi tional structu tional change el managemen teaching:	ions, learning con re and process on at and conflict res	rganisation, f	forms of p	rimary and	_	organisat	ion
4	Environr Organisa Organisa Personne Forms of Lecture,	mental conditi tional structu tional change el managemen teaching:	ions, learning control and process of the and conflict result and conflict result described the aching with the conflict results.	rganisation, f	forms of p	rimary and	_	organisat	ion
	Environr Organisa Organisa Personne Forms of Lecture,	mental conditional structurational change of management teaching: seminar-base ion requirement Non-	d teaching with e	rganisation, f	forms of p	rimary and	_	organisat	ion
	Environr Organisa Organisa Personne  Forms of Lecture, Participat Formal: Content:	mental conditi tional structu tional change el managemen teaching: seminar-base ion requiremen	d teaching with e	rganisation, f	forms of p	rimary and	_	organisat	ion

7	Prerequisite for the award of credit points:
	Module examination pass
8	Application of the module (in the following study programmes)
	Engineering Computer Sciences B.Eng., Renewable Energies B.Eng. and Industrial Engineering and
	Management B.Sc.
9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. Dr. rer. oec. Thomas Süße
11	Other information:
	Literature will be announced at the beginning of the course. Renewable Energies study
	programme: Possible elective subject
12	Language:
	German

	sics								PHY	
	ification	Workload:	Credits:	Study	semest	er:	Frequency of the offer		Duration:	
numb 1194		150 h	5	5 1st se			Annual (Winter)		1 semester	
1	Course:	1	Planned group s	Scope	e	Actual contact time / classroom teaching		Self-study		
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		1	SCH	15	h	22.5	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		1	SCH	15	h	22.5	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
3	verification develops physics in Contents:	ion of theoretiment projects. is the basis for	cientific impleme cal facts, a comp The knowledge a variety of tech	etence the	at is re I form	quired e	.g. within	he framew	ork of res	earch and
	Dynamic moments Optics Light and Thermod Tempera	ics: one and thes: Newton's a um  d photons, refultynamics ature, thermal of	raction and dispe	forces, w	ork-en	ergy-po	wer, mome	entum, rota	tion, angu	
4	Dynamic moments Optics Light and Thermod Tempera	ics: one and thes: Newton's a um  d photons, refulynamics ature, thermal a aw of thermod	xioms, types of a	forces, w	ork-en	ergy-po	wer, mome	entum, rota	tion, angu	
	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture,	ics: one and thes: Newton's a um  d photons, refulynamics atture, thermal caw of thermoditeaching: seminar-basecons.	xioms, types of a raction and dispersion, behaviorally and teaching with eaching wi	forces, we ersion, go	ork-en cometri	ergy-po	wer, mome	instrument	tion, angu	
4	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture, Participat	ics: one and thes: Newton's a um  d photons, refulynamics ature, thermal aw of thermoditeaching: seminar-based ion requirement	raction and disperent expansion, behaviors	forces, we ersion, go	ork-en cometri	ergy-po	wer, mome	instrument	tion, angu	
	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture, Participat Formal:	ics: one and thes: Newton's a sum  d photons, refulynamics sture, thermal caw of thermoditeaching: seminar-basection requirement	raction and disperent of the control	forces, we ersion, go	ork-en cometri	ergy-po	wer, mome	instrument	tion, angu	
5	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture,  Participat Formal: Content:	ics: one and the cs: Newton's a sum  d photons, refulynamics atture, thermal caw of thermoditeaching: seminar-based ion requirement None None	raction and disperent of the control	forces, we ersion, go	ork-en cometri	ergy-po	wer, mome	instrument	tion, angu	
	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture,  Participat Formal: Content: Forms of	ics: one and the cs: Newton's a sum  d photons, refulynamics atture, thermal caw of thermoduteaching: seminar-based ion requirement None assessment:	expansion, behaviorally namics	forces, we ersion, go	eometri	ergy-po	wer, mome	instruments theory of ga	tion, angu	
5	Dynamic moments  Optics Light and Thermoor Temperate second later of the contents  Forms of Lecture,  Participat Formal: Content: Forms of Written of	ics: one and thes: Newton's a sum  d photons, refultynamics atture, thermal caw of thermody  teaching: seminar-based ion requirement None assessment: examination, care	raction and disperent and disp	forces, we ersion, go	eometri	ergy-po	wer, mome	instruments theory of ga	tion, angu	
5	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture,  Participat Formal: Content: Forms of Written of Prerequise	d photons, refi	raction and disperent and disp	ersion, geviour of generates	eometri gases -	ergy-po	wer, mome	instruments theory of ga	tion, angu	
5 6 7	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture,  Participat Formal: Content: Forms of Written of Prerequis Module	d photons, refi	raction and disperent assessment and course assessment ass and course as	ersion, geviour of gevercises	eometrices and promance	ergy-po  ical optic  Gas law  oject tas  examin	wer, mome	instruments theory of ga	tion, angu	
5	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture,  Participat Formal: Content: Forms of Written of Prerequis Module Application	d photons, refi	raction and disperent of the course assessment of credit points:  ass and course ase (in the following)	ersion, geviour of gevereises	eometrices and promance	ergy-po  ical optic  Gas law  oject tas  examin	wer, mome	instruments theory of ga	tion, angu	
5 6 7	Dynamic moments  Optics Light and Thermod Tempera second la  Forms of Lecture,  Participat Formal: Content: Forms of Written of Prerequis Module of Application Industria	d photons, refi	raction and disperent assessment and course assessment ass and course as	ersion, geviour of gevereises  nt, performssessment g study pront B.Sc.	eometrices and promance	ergy-po  ical optic  Gas law  oject tas  examin	wer, mome	instruments theory of ga	tion, angu	

10	Module coordinator:
	Prof. Dr. rer. nat. Marc-Oliver Schierenberg
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

	tical Projec	ct / Internship							PRA	
Ident numb	tification ber:	Workload:	Credits:	Study	Study semester:		Frequency of the offer		Duration:	
1292	2	450 h	15 7th se		emeste	r	each ser	nester	12 wee	ks
1	Course:		Planned group sizes		Scope	e	Actual contact time / classroom teaching		Self-study	
	Lecture		60 students		0	SCH	0	h	450	h
	Tuition in	seminars	30 students		0	SCH	0	h	0	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
	in a prac	tice-oriented n clop suitable so	ctivities and lear nanner. To this e olution strategie resentation and	end, studes. The m	ents sh nain air	ould wor n is to d	rk indeper	ndently on e	ngineerin	g projects
	include a	an engineering report and the	m the field of ac g task. At the er students a final onal advising fr	nd of the report.	work During	term, th	e supervi ctical pha	sing compa	ny is to p	repare ar
4	Forms of	teaching:								
4		-	g with exercises	as accor	npanyi	ng guida	ance			
	Seminar	-	_	as accor	npanyi	ng guida	ance			
	Seminar	-based teaching	s:	as accor	npanyi	ng guida	ance			
5	Seminar Participat Formal: Content:	-based teaching ion requirement None None	s:	as accon	npanyi	ng guida	ance			
5	Seminar Participat Formal: Content:	-based teaching ion requirement None None assessment:	s:	as accor	npanyi	ng guida	ance			
5 6	Seminar Participat Formal: Content: Forms of Term pa	-based teachingion requirement None None assessment:	s:	as accor	npanyi	ng guida	ance			
5	Seminar Participat Formal: Content: Forms of Term pa Prerequis	-based teaching ion requirement None None assessment:	s:  I of credit points:	as accor	mpanyi	ng guida	ance			
5	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module	-based teaching ion requirement  None None assessment: per ite for the award examination particular in	s:  I of credit points:				ance			
5 6 7	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati	-based teaching ion requirement None None assessment: per ite for the award examination pron of the modulo	I of credit points:	g study pr	ogramn	nes)				
5 6 7	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng.,	based teaching ion requirement  None None assessment: per ite for the award examination particular properior of the module of Engineering	s:  I of credit points:	g study pr ering Co:	ogramn	nes)	es B.Eng.,			
6 77	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng., B.Sc.	-based teaching ion requirement  None None assessment: per ite for the award examination proportion of the modulal Engineering Mechatronics I	I of credit points: ass e (in the following B.Eng., Enginee	g study pr ering Co le Energi	ogramn	nes)	es B.Eng.,			
7	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng., B.Sc. Importance	-based teaching ion requirement  None None assessment: per ite for the award examination proportion of the moduled Engineering Mechatronics I	I of credit points: ass e (in the following B.Eng., Enginee B.Sc., Renewabl	g study pr ering Co le Energi	ogramn	nes)	es B.Eng.,			
55 77 88	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng., B.Sc. Important accordin	-based teaching ion requirement  None None assessment: per ite for the award examination proportion of the modulal Engineering Mechatronics I	I of credit points: ass e (in the following B.Eng., Enginee B.Sc., Renewabl	g study pr ering Co le Energi	ogramn	nes)	es B.Eng.,			
55 66 77 88	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng., B.Sc. Important accordin Module c	-based teaching ion requirement  None None assessment: per ite for the award examination proportion of the moduled Engineering Mechatronics I	I of credit points: ass e (in the following B.Eng., Enginee B.Sc., Renewabl	g study pr ering Co le Energi	ogramn	nes)	es B.Eng.,			
5 6 7 8	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng., B.Sc. Important accordin Module c	-based teaching ion requirement None None None assessment:  per ite for the award examination proportion of the moduled Engineering Mechatronics I are of the grade for th	I of credit points: ass e (in the following B.Eng., Enginee B.Sc., Renewabl	g study pr ering Co le Energi	ogramn	nes)	es B.Eng.,			
4 5 6 7 8 8 10	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng., B.Sc. Importanc accordin Module c Prof. Dr. Other infe	based teaching ion requirement  None None None assessment: per ite for the award examination per on of the module all Engineering Mechatronics In the state of the grade for the grade f	I of credit points: ass e (in the following B.Eng., Enginee B.Sc., Renewabl	g study pr ering Co: le Energi	ogramn mputer es B.E	nes) Science	es B.Eng.,			
5 6 7 8 9	Seminar Participat Formal: Content: Forms of Term pa Prerequis Module Applicati Electrica B.Eng., B.Sc. Importana accordin Module of Prof. Dr. Other info	based teaching ion requirement  None None None assessment: per ite for the award examination per on of the module all Engineering Mechatronics In the state of the grade for the grade f	I of credit points: ass e (in the following B.Eng., Enginee B.Sc., Renewabl for the final grade:	g study pr ering Co: le Energi	ogramn mputer es B.E	nes) Science	es B.Eng.,			

Proc	luct and Pri	ice Man	agemei	nt						PPM		
Ident numl	rification per:	Workload:		Credits:	Study semester:			Frequency of the offer		Duratio	on:	
1209		150 h		5	5th	semeste	r	Annual (Winter)		1 seme	ester	
1	Course:			Planned group s	sizes	Scop	e	Actual / classro teachin		Self-stud	dy	
	Lecture			60 students		3	SCH	45	h	67.5	h	
	Tuition in	seminar	s	30 students		1	SCH	15	h	22.5	h	
	Exercise			20 students		0	SCH	0	h	0	h	
	Practical	or semina	ar	15 students		0	SCH	0	h	0	h	
	Supervise	d self-stu	ıdy	60 students		0	SCH	0	h	0	h	
	understar targeted	nd the n manner.	node o . Stude	nd pricing police f action of the nts acquire the life cycle and to	operation	ve marl ence to	tet contr develop	ol instrun concepts	nents and	can apply	them in	
	• 1 • 1	Program Product Contract	me pol policy ing pol	•	·	ional m	arketing					
4	Forms of	teaching:	:	•	r							
5	Lecture, seminar-based teaching  Participation requirements:											
5	Formal:	ion requi	None									
	Content:											
6	Forms of Written of			ombination exa	minatio	n, perfo	rmance	examinati	on or oral	examinatio	on	
7		ite for the	e award	of credit points:		- 1						
8	Application	on of the	module	(in the following enewable Energ				al Enginee	ering and N	Manageme	nt B.Sc.	
9	•		~	or the final grade:								
10	Module c	oordinato	or:	134 6 6								
11				gard Manz-Sch	umache	r						
11	program	e will be me: poss	e annou	inced at the beg	_		ourse. R	enewable	Energies s	study		
12	Language	:										
	German											

Prod	uct Risk M	Ianagement							PRM		
Ident numl	ification ber:	Workload:	Credits:	Study	Study semester:			Frequency of the offer		Duration:	
1210		150 h	5	4th seme	or ster	6th	Annual (Summer)		1 semester		
1	Course:		Planned group s	Planned group sizes			Actual contact time / classroom teaching		Self-study		
	Lecture		60 students		2	SCH	30	h	45	h	
	Tuition in	seminars	30 students		2	SCH	30	h	45	h	
	Exercise		20 students		0	SCH	0	h	0	h	
	Practical	or seminar	15 students		0	SCH	0	h	0	h	
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h	
2	Learning	outcomes/comp	etences:					_			
	relation products	to different to	nt for technical echnical produc e the success	ts and	levelop	instru	ments for	risk minin	nisation	for thes	
	- Production - Production - Quality - Projection - Technic - Risk ty Method Method Risk method Integral Instruments	ods of technica nanagement in ation of risk m	gement tification lysis and risk ran l and economic ristruments and pristrument into ation and docum	risk asse rocesses the prod	uct dev		nt cycle				
4	Forms of	teaching:	I teaching with e	exercises	/case s	tudies.					
5		ion requirement None None	s:								
6	Forms of	assessment:	amination or ora	ıl evami	nation						
7	Prerequis		l of credit points:	CAUIIII	iuii0II						
8	Application	on of the modul	e (in the following Eng. and Indust		_		Ianagemen	t B.Sc.			
9	Importance		or the final grade:		- /	<u> </u>					
10	Module c	oordinator:	C . TT 123								
11	Other info	ormation:	wenzfeier-Hellka		0.5						
	Literatur	e will be anno	unced at the beg	inning o	f the co	ourse.					

Prod	luction Plan	nning							PRP		
Identification number:		Workload:	Credits:	Study	Study semester:			Frequency of the offer Annual (Summer)		Duration:	
1212		150 h	5	4th seme	4th or 6th semester					1 semester	
1	Course:		Planned group s	Planned group sizes		e	Actual contact time / classroom teaching		Self-study		
	Lecture		60 students		2	SCH	30	h	45	h	
	Tuition in	seminars	30 students		2	SCH	30	h	45	h	
	Exercise		20 students		0	SCH	0	h	0	h	
	Practical	or seminar	15 students		0	SCH	0	h	0	h	
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h	
2	Learning	outcomes/comp	petences:		ļ	*				•	
	example They are impact o The stud	s. able to evalue n holistic busi ents understar mation exchai	ly tools and met ate the planning r iness processes b and the procedures anged between the	esults in etween s in the su	terms supplie	of plaus	sibility and ustomers.	efficiency	and to ass	sess thei	
3	- Co su - M - Ty - In ma - Pr - M - Sc - On - M - St - Co	perational task onnection betwitable for proc arket requirent pical EDP aptormation flow aterial master, ogramme plant aterial requirent cheduling and reder processint apping a Kanlaipping prepartomputer-aided	cs in the area of p ween development duction ments for product plication areas to w and associated parts lists, work aning and primar ements planning v capacity balancing and production ban control syste- ration, delivery and production plan	ion procession procession procession data structure place may needs with BO and order mand invoice in the procession proc	esses a produ ctures aster, ra assessi M explanaged	and their ction plant the I' outings) ment, dosion ar	rocesses to control anning and Γ systems (	control (master data	a manage	_	
4	Forms of Lecture	teaching: and exercise									
5		ion requiremen									
	Formal:	None	-								
	Content:		c knowledge of n nology	nanufact	uring p	rocesse	s and basic	knowledge	e of infor	mation	
6		assessment:									
			or oral examination	on							
7			d of credit points:								
/											
7 8		examination p	bass le (in the following	r otrada	O GPOCE	205)					

9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. Dr. rer. oec. Pascal Reusch
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

1105	ect 1								PR1	
Ident numb	rification per:	Workload:	Credits:	Stud	y semes	ter:	Frequency of the offer		Duratio	on:
1222		150 h	5	4th	semeste	er	Annual (Summer)		1 seme	ester
1	Course:		Planned group	sizes	Scop	pe	Actual / classre teachin		Self-stuc	ly
	Lecture		60 students		0	SCH	0	h	0	h
	Tuition in	seminars	30 students		0	SCH	0	h	0	h
	Exercise		20 students		0	SCH	0	h	0	h
		or seminar	15 students		2	SCH	30	h	120	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
	task from organisate suitable	n a wide var tional units in software tools	ne methods and to riety of busines in a target-orient is (MS Project ar inication skills.	s proce	sses. T	hey acq to preser	uire the nt their p	competence roject resul	to work ts with th	in smal ne help o
3	Contents:									
5										
3	- Ba - Stu - Pr - Pr - Pr - De	nsics of task dructuring task oject manager oblem-solving esentation tec evelopment of	ment techniques g processes	ons for s	-	echnical :	and/or eco	onomic ope	rational ta	isks from
4	- Ba - Stu - Pr - Pr - Pr - De	nsics of task d ructuring task oject manager oblem-solving esentation tec evelopment of e professional	ment techniques g processes hniques f problem solutio	ons for s	-	echnical	and/or eco	onomic ope	rational ta	asks from
	- Ba - Sti - Pr - Pr - Pr - De	asics of task d ructuring task oject manager oblem-solving esentation tec evelopment of e professional	ment techniques g processes hniques f problem solutio	ons for si	neers				rational ta	asks from
4	- Ba - Sti - Pr - Pr - Pr - De the	asics of task dructuring task oject manager oblem-solving esentation tector evelopment of exprofessional teaching: nonitoring: Pring task	ment techniques g processes hniques f problem solutio fields of industr	ons for si	neers				rational ta	asks from
	- Ba - Sti - Pr - Pr - Pr - De the	asics of task dructuring task oject manager oblem-solving esentation tector of the professional teaching: nonitoring: Pring task ion requiremen	ment techniques g processes chniques f problem solution fields of industr coject work in a t	ons for si	neers				rational ta	asks from
4	- Ba - Sti - Pr - Pr - De the	nsics of task dructuring task oject manager oblem-solving esentation tector evelopment of exprofessional teaching: nonitoring: Pring task ion requiremen	ment techniques g processes chniques f problem solution fields of industr roject work in a t	ons for si	neers				rational ta	asks from
4 5	- Ba - Str - Pr - Pr - De the	asics of task dructuring task oject manager oblem-solving esentation tector evelopment of exprofessional teaching:  nonitoring: Pring task ion requirement None None	ment techniques g processes chniques f problem solution fields of industr roject work in a t	ons for si	neers				rational ta	asks from
4 5	- Ba - Str - Pr - Pr - Pr - De the	asics of task dructuring task oject manager oblem-solving esentation tector evelopment of the professional teaching:  nonitoring: Pring task ion requirement None assessment:	ment techniques g processes chniques f problem solution fields of industr roject work in a t	ons for si	neers				rational ta	asks from
5	- Ba - Str - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project w	asics of task dructuring task oject manager oblem-solving esentation tecevelopment of exprofessional teaching: nonitoring: Pring task ion requiremen None assessment:	ment techniques g processes hniques f problem solutio fields of industr roject work in a t	ons for sirial engine	neers				rational ta	asks from
5	- Ba - Str - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v	asics of task dructuring task oject manager oblem-solving esentation tecevelopment of e professional teaching: nonitoring: Pring task ion requiremen None assessment: vork	ment techniques g processes hniques f problem solutio fields of industr roject work in a t tts: e e	ons for sirial engine	neers				rational ta	asks from
4 5	- Ba - Str - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v Prerequisi Module of	asics of task dructuring task oject manager oblem-solving esentation tector evelopment of the professional teaching:  nonitoring: Pring task ion requirement None assessment:  vork ite for the awar examination prince task in the awar examination prince task in the same examination examination prince task in the same e	ment techniques g processes hniques f problem solutio fields of industr roject work in a t tts: e e	ons for sirial engine	neers	n-orienta			rational ta	asks from
4 5 6	- Ba - Sti - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v Prerequisi Module of Application	asics of task dructuring task oject manager oblem-solving esentation tector evelopment of the professional teaching:  nonitoring: Pring task ion requirement None None assessment:  vork ite for the awar examination pron of the moduling task ion of the moduling task ite for the awar examination pron of the moduling task ite for the awar examination pron of the moduling task ite for the awar examination pron of the moduling task ite for the awar examination pron of the moduling task in the same ta	ment techniques g processes chniques f problem solution fields of industr roject work in a t tts: e e d of credit points: pass	ons for sirial engine	neers th action	n-orienta			rational ta	asks from
4 5 7 8	- Ba - Str - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v Prerequisi Module of Application Industrial	asics of task dructuring task oject manager oblem-solving esentation tector evelopment of the professional teaching:  nonitoring: Pring task ion requirement None None assessment: work ite for the aware examination profession of the modulal Engineering tee of the grade in the series of the ser	ment techniques g processes chniques f problem solution fields of industr roject work in a t  tts: e e d of credit points: bass le (in the following	ons for sirial enginerate with team with grant g	neers th action	n-orienta			rational ta	asks from
5 6 7	- Ba - Str - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project w Prerequisi Module of Application Industrial	asics of task dructuring task oject manager oblem-solving esentation tector evelopment of the professional teaching:  nonitoring: Pring task ion requirement None None assessment: work ite for the awar examination profession of the modulation of the grade in the grade is grade of the grade in the grade is grade of the grade in the grade is grade in the grade in the grade is grade in the grade is grade in the grade in the grade in the grade is grade in the grade in the grade in the grade is grade in the grad	ment techniques g processes chniques f problem solution fields of industr roject work in a t tts: e e d of credit points: bass le (in the following g and Management	ons for sirial enginerate with team with grant g	neers th action	n-orienta			rational ta	asks from
4 5 7 8	- Ba - Str - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v Prerequisi Module e Application Importance accordin	asics of task dructuring task oject manager oblem-solving esentation tecevelopment of expressional teaching: nonitoring: Pring task ion requiremen None Sassessment: work ite for the awar examination pron of the modul Engineering to BRPO oordinator:	ment techniques g processes chniques f problem solution fields of industr roject work in a t tts: e e d of credit points: bass le (in the following g and Management for the final grade:	ons for sirial enginerate with team with grant g	neers th action	n-orienta			rational ta	asks from
4 5 7 8 9	- Ba - Str - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v Prerequisi Module of Application Importance accordin Module of Prof. Dr.	asics of task dructuring task oject manager oblem-solving esentation tecevelopment of expressional teaching: nonitoring: Pring task ion requiremen  None None assessment: work ite for the awar examination pron of the modul Engineering to BRPO oordinator: -Ing. Franz Ferenz Ferenz Ferenz Franz Ferenz Ferenz Franz Ferenz Franz Ferenz Franz Ferenz	ment techniques g processes chniques f problem solution fields of industr roject work in a t tts: e e d of credit points: bass le (in the following g and Management for the final grade:	ons for sirial enginerate with team with grant g	neers th action	n-orienta			rational ta	asks from
4 5 6 7 8 9	- Ba - Sti - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v Prerequisi Module of Application Important accordin Module of Prof. Dr. Other info	asics of task dructuring task oject manager oblem-solving esentation tecevelopment of exprofessional teaching: nonitoring: Pring task ion requirement None None assessment: vork ite for the awar examination pon of the modulal Engineering to BRPO oordinator: -Ing. Franz Formation:	ment techniques g processes chniques f problem solution fields of industr roject work in a t tts: e e d of credit points: bass le (in the following g and Management for the final grade:	g study p	neers th action	n-orienta			rational ta	asks from
4 5 7 8 9	- Ba - Sti - Pr - Pr - Pr - De the  Forms of Project n engineer Participat Formal: Content: Forms of Project v Prerequisi Module of Application Important accordin Module of Prof. Dr. Other info	asics of task dructuring task oject manager oblem-solving esentation tecevelopment of exprofessional teaching: nonitoring: Pring task ion requirement None None assessment: vork ite for the awar examination pon of the modulal Engineering to BRPO oordinator: -Ing. Franz Formation: e will be annoted.	ment techniques g processes chniques f problem solution fields of industr roject work in a t  tts: e e d of credit points: bass le (in the following and Management for the final grade: eyerabend	g study p	neers th action	n-orienta			rational ta	asks from

Proje	ect 2								PR2	
Ident	ification per:	Workload: Credits: Study semester:			ter:	Frequence offer	cy of the	Duration:		
1223		150 h	5	5 5th se				(Winter)	1 sem	ester
1	Course:		Planned grou	p sizes	Scop	e		contact time oom teaching		dy
	Lecture		60 students		0	SCH	0	h	0	h
	Tuition in	seminars	30 students		0	SCH	0	h	0	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		2	SCH	30	h	120	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
	task from organisat suitable s	n a wide vional units	the methods and variety of busin in a target-orie ols (MS Project nunication skills	ess proce ntated wa and MS F	sses. T y and	hey acq to prese	uire the	competenc roject resu	e to work lts with tl	c in small he help of
3	- Sti - Pro - Pro - Pro	ructuring ta oject managoblem-solvi esentation to oblem-solvi	gement technique ng processes	or simple	technic	al and/o	r econom	ie tasks fro	om the pro	ofessional
4	Forms of	teaching:								
т			Project work in	a team wit	h actio	n-orients	ated proce	essing of an		
	engineeri	_	-jv 51K III (	***1	- 35110		P1000	5 or un		
5		on requirem	ents:							
	Formal:	No	ne							
	Content:	No	ne							
6		assessment:								
7		te for the aw	ard of credit point	ts:						
8		examination	pass lule (in the follow	ing study n	rogrami	nes)				
o	Industria	l Engineerii	ng and Managen	nent B.Sc.	-	nesj				
9	_		e for the final grad	de:						
		g to BRPO								
10		oordinator:	Foremals as 1							
1.1	Other info		Feyerabend				_			
11			nounced at the b	eginning	of the c	ourse.				
12	Language									
	German									

Proc	ess and Inf	ormation Man	agement						PIM	
Identi	ification er:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duration	:
1302		150 h	5	6th s	emeste	r	Annual (S	Summer)	1 semes	ter
1	Course:		Planned group size	705	Scope	`	Actual c	ontact time	Self-study	
1	Course.		Flamled group si.	zes	Scope	2	/ classrooteaching	om	Sen-study	
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	Learning	outcomes/comp	etences:				_			
	_	-	nderstanding of o	peratio	nal IT	systems	and applic	ations.		
			E	1			11			
3	Contents:									
			ots of computer				-			
	_		fication of infor	mation	system	is are w	orked out.	Furtherm	ore, the fo	llowing
		are taught:	ama in industrial	ommli oc	tion					
			ems in industrial s and information							
		-	ns and IT systems	_	-	lustrial i	nanufactur	ing (ERP ]	MES PLM	PDM
		CM)	ns and 11 system	o to sup	port inc	iastrar i	nanaraetar	mg (Eru ,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		egration of IT	systems							
		e Digital Facto								
			outlooks of the f	actory	of tomo	orrow				
4	Forms of t	-								
	Lecture /									
5	Formal:	on requirements	S:							
	~	None None								
6	Content:	assessment:								
U			amination accom	nanvin	o the co	nurse				
7			of credit points:	parry	s the et	Juise				
,	_	examination pa	-							
8			e (in the following	study pr	ogramn	nes)				
			and Management	B.Sc.						
9			or the final grade:							
		g to BRPO								
10		oordinator:								
		Ing. Rolf Nau	mann							
11	Other info		unced at the begi	nnina ^	f the e	nirco				
12	Language		unceu at the begi	ming 0	i the co	Juise.				
14	Language									

Qual	lity Manag	ement							QM	
Ident numl	ification per:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duratio	n:
1230	)	150 h	5	5th s	emeste	r	Annual (Winter)		1 semester	
1	Course:		Planned group s	izes	Scope	2	Actual c / classro teaching		Self-stud	ly
	Lecture		60 students		2	SCH	30	h	45	h
	-	seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
2	Learning	outcomes/comp	etences:			1		-		1
	and cost in qualit	e able to analy -minimising co y managemen	rse and, if necess orporate manage t. They use Tota and leadership of	ment an al Qualit	d are a	ble to ir	ndependent	ly perform	managen	nent tas
3	Contents:									
	- O' - Ev - El of - Pr - Pr - Q' - Q' - Co - Bo - Co - Lo	valuation of the aboration of the aboration of the procurement, rocess orientation of the procurement of the	rent quality man e eight principles he essential requ incoming goods	s of QM irements , produc s improv	s from tion an	the ISO d distrib measur	oution res/prograr			
4		seminar-based	d teaching with e	xercises	/case st	tudies				
5	Formal:	ion requirement None	)							
	Content:	None								
6		assessment: per, written ex	amination, comb	oination	examir	nation, p	erformanc	e exam or o	oral exam	
7	_	ite for the award	d of credit points:							
•	VIOAIIIA	еханинанов в								

9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. Dr. rer. pol. Hildegard Manz-Schumacher
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Rob	otics								ROB		
Ident	ification per	Workload:	Credits:	Study	semest	ter:	Frequency of the offer		Duration:		
1240		150 h	5	5th se	5th semester			Annual (Winter)		1 semester	
1	Course:		Planned group s	sizes	Scop	e	Actual of / classro teaching		Self-stud	ly	
	Lecture		60 students		2	SCH	30	h	45	h	
	Tuition in	n seminars	30 students		1	SCH	15	h	22.5	h	
	Exercise		20 students		0	SCH	0	h	0	h	
		or seminar	15 students		1	SCH	15	h	22.5	h	
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h	
	different	t approaches t	ystems), the stud- to robot developm in robotics and re	nent. The	y will	thus bec	ome capal				
3	Contents	:									
3	Teaching - Manip - Robot - Forwa - Mobil - Senso - Artific - Behav	g content: bulators kinematics (ind and inverse robots rs for mobile bial intelligenciour-based ro	robots ce and robotics	ıl founda	tions)						
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4 5 5	Teaching - Manip - Robot - Forwa - Mobil - Sensor - Artific - Behav - Learn Forms of Lecture, Participat Formal: Content:	g content: pulators kinematics (ind and inversive robots rs for mobile cial intelligenciour-based roing robots teaching: seminar-basetion requirement Non Mat	robots ce and robotics botics ed teaching with ents:	exercises , Compu	, pract			Mechanics,	Electrica	al	
4	Teaching - Manip - Robot - Forwa - Mobil - Sensor - Artific - Behav - Learni Forms of Lecture, Participat Formal: Content:	g content: pulators kinematics (ind and inverse robots rs for mobile cial intelligence robots teaching: seminar-baset romagners robots	robots ce and robotics botics  ed teaching with ents: he hematics 1 and 2, incering 1 and 2,	exercises , Compu Physics	, practi	ence, En	gineering				
4 5 5	Teaching - Manip - Robot - Forwa - Mobil - Senson - Artific - Behav - Learn Forms of Lecture, Participal Formal: Content:  Forms of Written Prerequis	g content: bulators kinematics (ind and inversive robots rs for mobile cial intelligenciour-based robots teaching: seminar-basetion requirement Non Mat Eng assessment: examination, site for the awar	e kinematics robots ce and robotics botics ed teaching with ents: te thematics 1 and 2, combination example of credit points:	exercises , Compu Physics mination	, practiter Scientific , perfo	ence, En	gineering				
<ul><li>4</li><li>5</li><li>6</li><li>7</li></ul>	Teaching - Manip - Robot - Forwa - Mobil - Senson - Artific - Behav - Learn Forms of Lecture, Participal Formal: Content:  Forms of Written Prerequis module	g content: bulators kinematics (ind and inversive robots respondent robots respondent robots respondent robots reaching: seminar-base robots requirement robots reaching: seminar-base rob	e kinematics robots ce and robotics botics ed teaching with ents: ne hematics 1 and 2, combination examined of credit points: pass and course as	exercises , Compu Physics mination	, practiter Scient, perfo	ence, En	gineering				
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<ul><li>4</li><li>5</li><li>6</li><li>7</li></ul>	Teaching - Manip - Robot - Forwa - Mobil - Senso: - Artific - Behav - Learni Forms of Lecture, Participal Formal: Content:  Forms of Written Prerequis module Applicati Apparati Mechatr Importan	g content: pulators kinematics (ind and inverse robots rs for mobile cial intelligence four-based roing robots teaching: seminar-based four-based four-based roing requirement four-based roing requirement four-based	robots ce and robotics botics  ed teaching with ents: he hematics 1 and 2, ineering 1 and 2, combination examined of credit points: pass and course as alle (in the following blogy B.Sc., Elect	, Compure Physics mination ssessmering study practical Engineering	, practiter Scient, performation	rmance ones) ng B.En	gineering examination	on or oral ex	xaminatio	on	
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12	Language:	Ī
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4 1	- Configu	UML as a mo aration manas techniques	odelling languag gement	e						
4   l	Forms of t	eaching:								
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5 1	Participati	on requirement								
1	Formal:	None	<u>e</u>							
	Content:	Modi 1105	wledge of objectules: Computer Scient Computer Scient	nce 1;	d progra	amming				
0		ssessment: xamination o	r oral examination	on						
			d of credit points: bass and course a	ssessme	ent					
8	Applicatio	n of the modul	le (in the following r Sciences B.Eng	g study p	rogramm		ering and	Manageme	ent B Sc	
9 ]	Importance		for the final grade:			Liigiiio	g unu		L.II. D.DC.	
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11	Other info	rmation:	ounced at the beg	oinning (	of the co	nirce				
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12	Language:									

Stati	stics								STA	
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1249		150 h	5	3rd s	emeste	r	Annual (Winter)		1 semester	
1	Course:	I	Planned group s	izes	Scope	e	Actual co	ontact time om	Self-stud	ly
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
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3	Contents:									
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12 Language:
German

Course:		neering M	echanics							TM	
Course:			Workload:	Credits:	Study	semest	er:		of the	Duratio	on:
Lecture 60 students 2 SCH 30 h 45 h  Tuition in seminars 30 students 2 SCH 30 h 45 h  Exercise 20 students 0 SCH 0 h 0 h  Supervised self-study 60 students 0 SCH 0 h 0 h  Supervised self-study 60 students 0 SCH 0 h 0 h  Supervised self-study 60 students 0 SCH 0 h 0 h  Supervised self-study 60 students 0 SCH 0 h 0 h  Supervised self-study 60 students 0 SCH 0 h 0 h 0 I  Exercise 20 students 0 SCH 0 h 0 h 0 I  Supervised self-study 60 students 0 SCH 0 h 0 I  Supervised self-study 60 students 0 SCH 0 h 0 I  Learning outcomes/competences:  The students know the elementary correlations, basic concepts and laws of technical mechanics. I not technical systems.  They are able to derive stresses from determined mechanical loads. Through insight into cut application areas, they can grasp the practical significance of engineering mechanics.  They are able to derive stresses from determined mechanical loads. Through insight into cut application areas, they can grasp the practical significance of engineering mechanics.  They are able to derive stresses from determined mechanical loads. Through insight into cut application areas.  They are able to derive stresses from determined mechanical loads. Through insight into cut application areas.  They are able to derive stresses from determined mechanical loads. Through insight into cut application areas.  The course enables the students to think and work independently with engineering-related method mechanical engineering application on feveral forces, central system of forces, resulting force, mechanical equilibrium  Free body diagram: statically determinate, special cases, multi-body systems  Truss: external and internal statically determinate, special cases, multi-body systems  Truss: external and internal statically determinate, special cases, multi-body systems  Truss: external and internal statically determinate, special cases, multi-body systems  Truss: external and internal statically determinate, special cases, multi-body systems  Truss: external and internal statically d			150 h	5	1st se	emester			Winter)	1 semester	
Tuition in seminars 30 students 2 SCH 30 h 45 It  Exercise 20 students 0 SCH 0 h 0 It  Practical or seminar 15 students 0 SCH 0 It 0 It  Supervised self-study 60 students 0 SCH 0 It 0 It 0 It  Supervised self-study 60 students 0 SCH 0 It 0 It 0 It  Learning outcomes/competences:  The students know the elementary correlations, basic concepts and laws of technical mechanics. It is students where the basic means of description and methods of analysis for determining the mechanical on technical systems.  They are able to derive stresses from determined mechanical loads. Through insight into cut application areas, they can grasp the practical significance of engineering mechanics. The course enables the students to think and work independently with engineering-related methor mechanical engineering application areas.  Contents:  - Introduction: Statics, effect and definition of a force, idealisations - System of forces: Addition of several forces, central system of forces, resulting force, mechanical equilibrium - Free body diagram: statically determinate, special cases, multi-body systems - Truss: external and internal statically determinate, bar forces according to the method of section and the method of joint Centre of mass, centre of volume, centre of area, centre of line, stability - Friction: Coulomb's law for friction, physical processes of friction, rope friction, friction on machine elements, energy conversion efficiency, - Dynamics: general theory of motion - Strength of materials: Types of basic stresses, internal loads, determination of stresses on components  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None  Content: None  Forms of assessment:  Written examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the medule (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:	1	Course:		Planned group s	izes	Scope	2	/ classro	om	Self-stuc	ly
Tuition in seminars 30 students 2 SCH 30 h 45 It  Exercise 20 students 0 SCH 0 h 0 It  Practical or seminar 15 students 0 SCH 0 It 0 It  Supervised self-study 60 students 0 SCH 0 It 0 It 0 It  Supervised self-study 60 students 0 SCH 0 It 0 It 0 It  Exercise 20 students 0 SCH 0 It 0 It 0 It 0 It  Supervised self-study 60 students 0 SCH 0 It 0 It 0 It 0 It  Examing outcomes/competences:  The students know the elementary correlations, basic concepts and laws of technical mechanics. It is students to the students of analysis for determining the mechanical on technical systems.  They are able to derive stresses from determined mechanical loads. Through insight into cut application areas, they can grasp the practical significance of engineering mechanics. The course enables the students to think and work independently with engineering-related methor mechanical engineering application areas.  Contents:  - Introduction: Statics, effect and definition of a force, idealisations - System of forces: Addition of several forces, central system of forces, resulting force, mechanical equilibrium - Free body diagram: statically determinate, special cases, multi-body systems - Truss: external and internal statically determinate, bar forces according to the method of section and the method of joint Centre of mass, centre of volume, centre of area, centre of line, stability - Friction: Coulomb's law for friction, physical processes of friction, rope friction, friction on machine elements, energy conversion efficiency, - Dynamics: general theory of motion - Strength of materials: Types of basic stresses, internal loads, determination of stresses on components  Forms of teaching: Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: None  Content: None  Content: None  Forms of assessment:  Written examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the medule (in the following study programmes) Industrial Engineering and		Lecture		60 students		2	SCH	30	h	45	h
Practical or seminar   15 students   0   SCH   0   h   0   h   Supervised self-study   60 students   0   SCH   0   h   0   h   Supervised self-study   60 students   0   SCH   0   h   0   h   Supervised self-study   60 students   0   SCH   0   h   0   h   SCH   0   h   0   h   h   0   SCH   0   h   0   h   SCH   0			seminars				+	_	h		h
Supervised self-study   60 students   0   SCH   0   h   0   l		Exercise		20 students		0	SCH	0	h	0	h
Learning outcomes/competences:  The students know the elementary correlations, basic concepts and laws of technical mechanics. master the basic means of description and methods of analysis for determining the mechanical on technical systems.  They are able to derive stresses from determined mechanical loads. Through insight into cu application areas, they can grasp the practical significance of engineering mechanics.  The course enables the students to think and work independently with engineering-related methor mechanical engineering application areas.  Contents:  Introduction: Statics, effect and definition of a force, idealisations  System of forces: Addition of several forces, central system of forces, resulting force, mechanical equilibrium  Free body diagram: statically determinate, special cases, multi-body systems  Truss: external and internal statically determinate, bar forces according to the method of section and the method of joint.  Centre of mass, centre of volume, centre of area, centre of line, stability  Friction: Coulomb's law for friction, physical processes of friction, rope friction, friction on machine elements, energy conversion efficiency,  Dynamics: general theory of motion  Strength of materials: Types of basic stresses, internal loads, determination of stresses on components  Perrons of teaching:  Lecture, seminar-based teaching with exercises  Participation requirements:  Formal: None  Content: None  Forms of assessment:  Written examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:		Practical	or seminar	15 students		0	SCH	0	h	0	h
The students know the elementary correlations, basic concepts and laws of technical mechanics.' master the basic means of description and methods of analysis for determining the mechanical I on technical systems.  They are able to derive stresses from determined mechanical loads. Through insight into cu application areas, they can grasp the practical significance of engineering mechanics.  The course enables the students to think and work independently with engineering-related metho mechanical engineering application areas.  Contents:  - Introduction: Statics, effect and definition of a force, idealisations - System of forces: Addition of several forces, central system of forces, resulting force, mechanical equilibrium - Free body diagram: statically determinate, special cases, multi-body systems - Truss: external and internal statically determinate, bar forces according to the method of section and the method of joint Centre of mass, centre of volume, centre of area, centre of line, stability - Friction: Coulomb's law for friction, physical processes of friction, rope friction, friction on machine elements, energy conversion efficiency, - Dynamics: general theory of motion - Strength of materials: Types of basic stresses, internal loads, determination of stresses on components -  Forms of teaching: Lecture, seminar-based teaching with exercises - Participation requirements: Formal: None - Content: None - Forms of assessment: - Written examination or oral examination - Prerequisite for the award of credit points: - Module examination pass - Application of the module (in the following study programmes) - Industrial Engineering and Management B.Sc Importance of the grade for the final grade:		Supervise	ed self-study	60 students		0	SCH	0	h	0	h
The students know the elementary correlations, basic concepts and laws of technical mechanics.' master the basic means of description and methods of analysis for determining the mechanical I on technical systems.  They are able to derive stresses from determined mechanical loads. Through insight into cu application areas, they can grasp the practical significance of engineering mechanics.  The course enables the students to think and work independently with engineering-related metho mechanical engineering application areas.  Contents:  Introduction: Statics, effect and definition of a force, idealisations  System of forces: Addition of several forces, central system of forces, resulting force, mechanical equilibrium  Free body diagram: statically determinate, special cases, multi-body systems  Truss: external and internal statically determinate, bar forces according to the method of section and the method of joint.  Centre of mass, centre of volume, centre of area, centre of line, stability  Friction: Coulomb's law for friction, physical processes of friction, rope friction, friction on machine elements, energy conversion efficiency,  Dynamics: general theory of motion  Strength of materials: Types of basic stresses, internal loads, determination of stresses on components  Torms of teaching:  Lecture, seminar-based teaching with exercises  Participation requirements:  Formal: None  Content: None  Forms of assessment:  Written examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:	,	Learning	outcomes/comi	petences:							
- Introduction: Statics, effect and definition of a force, idealisations - System of forces: Addition of several forces, central system of forces, resulting force, mechanical equilibrium - Free body diagram: statically determinate, special cases, multi-body systems - Truss: external and internal statically determinate, bar forces according to the method of section and the method of joint Centre of mass, centre of volume, centre of area, centre of line, stability - Friction: Coulomb's law for friction, physical processes of friction, rope friction, friction on machine elements, energy conversion efficiency, - Dynamics: general theory of motion - Strength of materials: Types of basic stresses, internal loads, determination of stresses on components		The cour mechanic	rse enables the cal engineerin	e students to thin	k and wo	-					ethods i
Lecture, seminar-based teaching with exercises  Participation requirements: Formal: None Content: None Forms of assessment: Written examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade:		- Systen force, me	n of forces: A	ddition of severa ilibrium	l forces,		system				
Lecture, seminar-based teaching with exercises  Participation requirements:  Formal: None  Content: None  Forms of assessment:  Written examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:		- Truss: section a - Centre - Frictio machine - Dynan - Streng	ody diagram: external and ind the method of mass, centon: Coulomb's elements, endinces: general the	internal statically d of joint. tre of volume, ce law for friction, ergy conversion of heory of motion	determintre of a physical efficiency	rea, cer proces	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Participation requirements: Formal: None Content: None Forms of assessment: Written examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade:	1	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone	ody diagram: external and ind the method of mass, centon: Coulomb's elements, end nics: general t th of material ents	internal statically d of joint. tre of volume, ce law for friction, ergy conversion of heory of motion	determintre of a physical efficiency	rea, cer proces	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Formal: None Content: None Forms of assessment: Written examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade:	1	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone -	ody diagram: external and ind the method of mass, centon: Coulomb's elements, end inics: general the of material ents	internal statically d of joint. tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic	ntre of a physical efficiency stresses	rea, cei proces y, , intern	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Content: None  Forms of assessment: Written examination or oral examination  Prerequisite for the award of credit points: Module examination pass  Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:		- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture,	ody diagram: external and ind the method of mass, cent on: Coulomb's elements, end inics: general t th of material ents  teaching: seminar-base	internal statically d of joint.  tre of volume, ce law for friction, ergy conversion energy of motion s: Types of basic d teaching with e	ntre of a physical efficiency stresses	rea, cei proces y, , intern	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Forms of assessment: Written examination or oral examination Prerequisite for the award of credit points: Module examination pass Application of the module (in the following study programmes) Industrial Engineering and Management B.Sc. Importance of the grade for the final grade:		- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat	ody diagram: external and ind the method of mass, centon: Coulomb's elements, end nics: general t th of material ents  teaching: seminar-base ion requiremen	internal statically d of joint. tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic d teaching with ets:	ntre of a physical efficiency stresses	rea, cei proces y, , intern	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Written examination or oral examination  Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:		- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat Formal:	ody diagram: external and ind the method of mass, centon: Coulomb's elements, end nics: general t th of material ents  teaching: seminar-base ion requiremen	internal statically d of joint. tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic  d teaching with e ts:	ntre of a physical efficiency stresses	rea, cei proces y, , intern	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Prerequisite for the award of credit points:  Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:	5	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat Formal: Content:	ody diagram: external and ind the method of mass, centon: Coulomb's elements, enemics: general the of material ents  teaching: seminar-base ion requirementor ion requirementor ion	internal statically d of joint. tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic  d teaching with e ts:	ntre of a physical efficiency stresses	rea, cei proces y, , intern	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Module examination pass  Application of the module (in the following study programmes)  Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:	5	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat Formal: Content: Forms of	ody diagram: external and ind the method of mass, centon: Coulomb's elements, enemics: general to the of material ents  teaching: seminar-base ion requirement None assessment:	internal statically d of joint. tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic  d teaching with e ts:	ntre of a physical efficiency stresses	rea, cei proces y, , intern	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
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Industrial Engineering and Management B.Sc.  Importance of the grade for the final grade:	5	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat Formal: Content: Forms of Written of	ody diagram: external and ind the methods of mass, centon: Coulomb's elements, endinces: general the of material ents  teaching: seminar-base ion requirements  None assessment: examination of ite for the awar	internal statically d of joint.  tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic d teaching with e ts:  e e e or oral examination of credit points:	ntre of a physical efficiency stresses	rea, cei proces y, , intern	ar force ntre of li	s according ne, stabilit riction, rop	y to the med	friction o	n
Importance of the grade for the final grade:	5	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequisi Module of	ody diagram: external and ind the methods of mass, centon: Coulomb's elements, endincies: general the of material ents  teaching: seminar-base ion requirements    None   None   assessment: examination of ite for the aware examination p	internal statically d of joint.  tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic d teaching with e ts:  e e e or oral examination of credit points: bass	ntre of a physical officiency stresses	rea, cer proces y, , intern	ar force  tre of li  sses of f  al loads	s according ne, stabilit riction, rop	y to the med	friction o	n
	5	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequis: Module of Application	ody diagram: external and ind the method of mass, centor: Coulomb's elements, end nics: general to the of material ents  teaching: seminar-base ion requirement None None assessment: examination of ite for the awar examination pon of the modu	internal statically d of joint.  tre of volume, ce law for friction, ergy conversion e heory of motion s: Types of basic d teaching with e ts:  e e e e e e e e e e e e e e e e e e e	ntre of a physical efficiency stresses exercises	rea, cer proces y, , intern	ar force  tre of li  sses of f  al loads	s according ne, stabilit riction, rop	y to the med	friction o	n
according to BRPO	7	- Truss: section a - Centre - Frictio machine - Dynan - Streng compone - Forms of Lecture, Participat Formal: Content: Forms of Written of Prerequise Module of Application	ody diagram: external and ind the method of mass, centor: Coulomb's elements, enemics: general to the of material ents  teaching: seminar-base ion requirement  None assessment: examination of the modul Engineering	internal statically d of joint.  tre of volume, ce law for friction, ergy conversion end heory of motion is: Types of basic d teaching with end teaching with end to of credit points: basis le (in the following and Managemer)	ntre of a physical efficiency stresses exercises on g study protection of the stresses on the stresses of the	rea, cer proces y, , intern	ar force  tre of li  sses of f  al loads	s according ne, stabilit riction, rop	y to the med	friction o	n

	Prof. DrIng. Peter Reinhold
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Tech	nical Engl	ish							TEN	
	ification	Workload:	Credits:	Study	semest	ter:	Frequency	of the	Duratio	n:
numb 1264		150 h	5	5th s	emeste	r	Annual (Winter)		1 semester	
1	Course:		Planned group s	Planned group sizes		e	Actual contact time / classroom teaching		Self-stud	y
	Lecture		60 students		0	SCH	0	h	0	h
	Tuition in	seminars	30 students		4	SCH	60	h	90	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
	- M	ethodological	glish-speaking b competence: The	ey are ab	ole to sl		ialist texts	for essentia	al informa	
3	Contents: - St - Th op sy - Th	udents can act ney master en erations; dime stems and Ind ney possess in	tively participate agineering-releva	in internant termines; force	nationa inology es and r	l conference (e.g. no mechanicussing re	ences. nanufacturi sms; prope	ng process rties of ma	ses; math terials; au	ematical
4	Contents: - St - Th op sy - Th pr  Forms of Seminar-	udents can act ney master en erations; dime stems and Ind ney possess in oduct; managinetaching: -based teaching:	tively participate agineering-relevaensions and shap ustry 4.0). terdisciplinary sing projects; desi	in internant termines; force	nationa inology es and r	l conferency (e.g. nomechanics)	ences. nanufacturi sms; prope adings and	ng process rties of ma trends; pi ic writing)	ses; math terials; au	ematical tomated
4	Contents: - St - Th op sy - Th pr  Forms of Seminar-	udents can act extensional competitions and the extensional competitions and the extensions; dime extensions	tively participate agineering-relevatensions and shap ustry 4.0). terdisciplinary sing projects; desi	in interrant termines; force kills (e.g. gning co	nationa inology es and r g. discu onferen	l conference (e.g. nomechanial issing reduce postere)	ences. nanufacturi sms; prope radings and ers; academ	ng process rties of ma trends; pi ic writing)	ses; math terials; au	ematical
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4	Contents: - St - Tr op sy - Tr pr  Forms of Seminar- Participat Formal: Content:	udents can act experiments and matersonal competition and incompetitions are incompetitions and incompetitions and incompetitions are incompetitive. Incompetition and incompetitions are incompetitive and incompetitions are incompetitive. In the incompetition and incompetitions are incompetitive and incompetitions are incompetitive. In the incompetition and incompetitions are incompetitive and incomp	tively participate agineering-relevatensions and shap ustry 4.0). Iterdisciplinary stang projects; desired agineering and shap ustry 4.0.	in internant termines; force kills (e.g. gning contact group)	nationa inology es and r g. discu onferen	l conferency (e.g. nomechanialssing reacce posterence)	ences. nanufacturi sms; prope eadings and ers; academ	ng process rties of ma trends; pi ic writing)	ses; math terials; au tching a t	ematical
4	- Per au  Contents: - St - Th op sy - Th pr  Forms of Seminar-  Participat Formal: Content:	udents can act ney master en erations; dime stems and Ind ney possess in oduct; managineteaching: -based teaching: -based teaching: -based teaching: -passed	tively participate agineering-relevatensions and shap ustry 4.0). Iterdisciplinary sing projects; desired in the sing projects and the sing projects are sing projects. Iterdisciplinary sing projects are sing projects and the sing projects are sing projects are sing projects. Iterdisciplinary sing projects are sing projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects are single projects. Iterdisciplinary single projects are single projects are single projects are single projects. Iterdisciplinary single projects are single projects	in internant termines; force kills (e.g. gning contact group)	nationa inology es and r g. discu onferen	l conferency (e.g. nomechanialssing reacce posterence)	ences. nanufacturi sms; prope eadings and ers; academ	ng process rties of ma trends; pi ic writing)	ses; math terials; au tching a t	ematica tomatec
5	Contents: - St - Th op sy - Th pr  Forms of Seminar-  Participat Formal: Content:	udents can act ney master en erations; dime stems and Ind ney possess in oduct; managinateaching:  teaching:  teaching:  ion requiremen  Regu  Engl Fram assessment: ation examinates	tively participate agineering-relevatensions and shap ustry 4.0). Iterdisciplinary sing projects; desired in attendance (7) ish language connework for Language tion	in internant termines; force kills (e.g. gning contact group)	nationa inology es and r g. discu onferen	l conferency (e.g. nomechanialssing reacce posterence)	ences. nanufacturi sms; prope eadings and ers; academ	ng process rties of ma trends; pi ic writing)	ses; math terials; au tching a t	ematica tomatec
5	Contents: - St - Th op sy - Th pr  Forms of Seminar- Content:  Forms of Combina Prerequis	udents can act ney master en perations; dime stems and Ind ney possess in oduct; managiteaching:  based teaching:  ion requiremen  Regularity  Englarity	tively participate agineering-relevatensions and shap ustry 4.0). terdisciplinary sing projects; desired in a terminal and test attendance (7 is hanguage connework for Language tion dof credit points:	in interrunt termines; force kills (e.g. gning conditions)	nationa inology es and r g. discu onferen	l conferency (e.g. nomechanialssing reacce posterence)	ences. nanufacturi sms; prope eadings and ers; academ	ng process rties of ma trends; pi ic writing)	ses; math terials; au tching a t	ematica tomatec
4	Contents: - St - Th op sy - Th pr  Forms of Seminar-  Participat Formal: Content:  Forms of Combina Prerequis Passed so	udents can act ney master en perations; dime stems and Ind ney possess in oduct; managine teaching: -based t	tively participate agineering-relevatensions and shap ustry 4.0). Iterdisciplinary sing projects; desired in attendance (7) ish language connework for Language tion	in interrunt termines; force kills (e.g. gning conditions)	nationa inology es and r g. discu onferen work,	l conferency and l conferency (e.g. no mechanial assing reference postered) etc. / ser	ences. nanufacturi sms; prope eadings and ers; academ	ng process rties of ma trends; pi ic writing)	ses; math terials; au tching a t	ematica itomatec

9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	OStR Cornelia Biegler-König
11	Other information:
	Literature will be announced at the beginning of the course. Textbook, additional
	materials, intranet self-study courses
12	Language:
	English

Texti	ile Technol	logies							TEX	
Identi numb	ification	Workload:	Credits:	Study	semest	er:	Frequency	y of the	Duratio	n:
6004		150 h	5	4th seme	or	6th		Summer)	1 seme	ester
1	Course:		Planned group si	zes	Scope	2	Actual contact time / classroom teaching		Self-stud	ly
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		2	SCH	30	h	45	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	Describin importan	t textile testing	chain, comparing procedures and hain independent	recent	rent ter researc	xtile fat h topics	orics and s. Students	materials, i describe, a	ndicating nalyse an	the most d assess a
3	narrow to	extiles, finishinal textiles; ph	spinning, secong, manufacture; ysical and other along the textile	textile i	machin	es; sust	ainability i	n the textil	e chain; ir	ntelligent
4	Forms of t	-								
5		hands-on semi on requirement								
3	Formal:		3.							
	Content:									
6		assessment:								
7			of credit points:							
/		examination pa	_							
8			e (in the following	study pr	ogramn	nes)				
	Apparati	ve Biotechnol	ogy B.Sc., Mech	atronics	B.Sc.,	Renewa		ies B.Eng.	and Indus	strial
9	Importanc	e of the grade f	gement B.Sc., M or the final grade:	ecnanic	ai Engi	neering	ъ.eng.			
		g to BRPO								
10		oordinator:								
11	Prof. Dr. Other info	Dr. Andrea E	hrmann							
12	Language									
	English									

Bus	iness Simul	ation Logisti	ics or General Ma	nageme	nt				ULG	
	tification	Workload:	Credits:	Study	semes	ter:	Frequenc	y of the	Durati	on:
num			_				offer			
1269	9	150 h	5	6th s	emeste	r	Annual (	(Summer)	1 sem	ester
1	Course:		Planned group s	sizes	Scop	e	Actual contact time /classroom teaching		Self-study	
	Lecture		60 students		2	SCH	30	h	45	h
	Tuition in	seminars	30 students		0	SCH	0	h	0	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical of	or seminar	15 students		2	SCH	30	h	45	h
	Supervise	d self-study	60 students		0	SCH	0	h	0	h
2	Learning	outcomes/com	petences:							
3	an - De - De - Pr - Le - Pr Contents: - Int - Ga	d lead times ealing with coecision-making actising intercarning problem actising efficient oduction to make rounds 1	omplex decisions	under co	onditio acting em-solv visualis	ns of und ving skill action	certainty			
1	Forms of	-	4		•					
		ion requirement	ulation with com	puisory a	auenda	nce, pos	sidiy in a	DIOCK SEMIT	аг	
-	Participat	ion requireme								
5	Formal:									
5	Formal:		ne							
	Content:	Nor	ne							
	Content: Forms of	Nor assessment:	ne ne	ect work	or oral	examin	ation			
6	Content: Forms of Term pap	Nor assessment: per, written e	ne	ect work	or oral	examin	ation			
5	Content: Forms of Term pap Prerequisi	Nor assessment: per, written e ite for the awa	ne ne examination, proje rd of credit points:	ect work	or oral	examin	ation			
6 7	Content: Forms of Term pap Prerequisi Module 6	Nor assessment: per, written extensive for the awarexamination	ne ne examination, proje rd of credit points:				ation			
5 7	Content: Forms of Term pap Prerequisi Module of Application	Nor assessment: per, written e ite for the awa examination on of the mode	examination, projected of credit points:	g study pı			ation			
5 6 7 8	Content: Forms of Term pap Prerequisi Module of Application Industrian Importance	Nor assessment: per, written e ite for the awa examination on of the mode al Engineering ce of the grade	ne examination, proje rd of credit points: pass ule (in the following	g study pr nt B.Sc.			ation			
6 7 8	Content: Forms of Term pap Prerequisi Module of Application Industria Important according	Nor assessment: per, written e ite for the awa examination on of the mode al Engineering ce of the grade g to BRPO	examination, projected of credit points: pass alle (in the following g and Managemen	g study pr nt B.Sc.			ation			
6 7 8	Content: Forms of Term pay Prerequisi Module of Application Industriat Importance according Module of	Nor assessment: per, written e ite for the awa examination on of the mode al Engineering the of the grade g to BRPO oordinator:	examination, projected of credit points: pass lale (in the following g and Management of the final grade:	g study pr nt B.Sc.			ation			
6 77 88 99	Content: Forms of Term pay Prerequisi Module of Application Industria Importance according Module of DiplVo	Nor assessment: per, written edite for the awa examination on of the mode al Engineering ce of the grade g to BRPO oordinator: olkswirt Holg	examination, projected of credit points: pass lale (in the following g and Management of the final grade:	g study pr nt B.Sc.			ation			
6 7 8	Content: Forms of Term pap Prerequisi Module of Application Industrian Importance accordin Module of DiplVo Other info	Nor assessment: per, written edite for the awa examination on of the mode al Engineering oe of the grade g to BRPO oordinator: olkswirt Holg permation:	examination, projected of credit points: pass alle (in the following g and Management for the final grade:  er Hartman	g study pr nt B.Sc.	rogramr	nes)	ation			
77 88	Content: Forms of Term pap Prerequisi Module of Application Industrian Importance accordin Module of DiplVo Other info	Nor assessment: per, written extended the aware examination on of the mode. I Engineering to BRPO coordinator: olkswirt Holgormation: e will be ann	examination, projected of credit points: pass lale (in the following g and Management of the final grade:	g study pr nt B.Sc.	rogramr	nes)	ation			

T.1	iness Simu	lation Marke	ting or General M	<b>I</b> anageme	ent				UMG	
lden num	tification ber:	Workload:	Credits:	Study	semest	er:	Frequency	of the	Duration:	
127		150 h	5	6th se	emeste	r	Annual (Summer)		1 seme	ester
1	Course:		Planned group	sizes	izes Scope Actual contact tin / classroom teaching		om	Self-study		
	Lecture		60 students		2	SCH	30	h	45	h
		n seminars	30 students		0	SCH	0	h	0	h
	Exercise		20 students		0	SCH	0	h	0	h
	Practical	or seminar	15 students		2	SCH	30	h	45	h
	Supervise	ed self-study	60 students		0	SCH	0	h	0	h
	are acqu	ired.	nical competence	- megra			at at the s	and time ii	porunt	5KII
3	Contents		eting simulation:							
	- Fi - A - D - B  Contents - C - Fi - D - G - V	farket analys arget-group-oxing appropriate daptation of esign of comudgeting and as Business gate ompany and axing R&D sievelopment of alue-based realization of alue-based rearget arget argument of alue-based realization of a	orientated product riate pricing strate product policy str munication and d performance ana time General Mana market analysis	egies ategies istribution lysis of the agement: ement and on and sal	on police he imp d ware les dec	lemented housing isions	d marketir			
4	- Fi - A - D - B  Contents - C - Fi - D - G - V ac	darket analystarget-group-oxing appropriate daptation of esign of comudgeting and strong R&D strong	prientated product riate pricing strate product policy str munication and d performance ana mare General Mana market analysis trategies of optimal procure optimal production ecording and evaluation	egies categies categies distribution displayed	on police he imp d ware les dec the co	housing isions mpany's	d marketing strategies activities	via internal	and exte	
	- Fi - A - D - B  Contents - C - Fi - D - G - V ac  Forms of Lecture,	darket analys arget-group-oxing appropriate daptation of esign of comudgeting and as Business gate ompany and exing R&D seevelopment of alue-based recounting teaching:	prientated product riate pricing strate product policy str munication and d performance ana mare General Mana market analysis trategies of optimal procure optimal production ecording and evalu-	egies categies categies distribution displayed	on police he imp d ware les dec the co	housing isions mpany's	d marketing strategies activities	via internal	and exte	
4 5	- Fi - A - D - B  Contents - C - Fi - D - G - V ac  Forms of Lecture,	darket analys arget-group-oxing appropriate daptation of esign of comudgeting and as Business gate ompany and exing R&D sevelopment of alue-based recounting teaching:	prientated product riate pricing strate product policy strate product policy strate munication and deperformance analysis trategies production production production and evaluation with comparis:	egies categies categies distribution displayed	on police he imp d ware les dec the co	housing isions mpany's	d marketing strategies activities	via internal	and exte	
	- Fi - A - D - B  Contents - C - Fi - D - G - V ac  Forms of Lecture,	arket analystarget-group-oxing appropriate appropriate and appropriate and as Business group and axing R&D stevelopment of alue-based recounting a teaching:  business sint too requirement of No	prientated product riate pricing strate product policy strate product policy strate munication and deperformance analysis trategies production production production and evaluation with comparis:	egies categies istribution lysis of the agement: ement and on and saluation of equilibrity pulsory a	on police he imp d ware les dec the co	housing isions mpany's nce, pos	strategies activities sibly in a	via internal block semin	and exte	rnal

	Module examination pass
8	Application of the module (in the following study programmes)
	Industrial Engineering and Management B.Sc.
9	Importance of the grade for the final grade:
	according to BRPO
10	Module coordinator:
	Prof. Dr. rer. oec. Klaus Rüdiger
11	Other information:
	Literature will be announced at the beginning of the course. The module can be offered in German
	or English.
12	Language:
	German

Dist	ribution an	nd Sales Mana	gement						VM		
Iden num	rification per:	Workload:	Credits:	Study	semest	er:	Frequency offer	of the	Duratio	on:	
1276		150 h	5	6th se	emeste	r	Annual (S	ummer)	1 seme	ester	
1	Course:		Planned group s	Planned group sizes		e	Actual contact time / classroom teaching		Self-stud	Self-study	
	Lecture		60 students		3	SCH	45	h	67.5	h	
	Tuition in	n seminars	30 students		1	SCH	15	h	22.5	h	
	Exercise		20 students		0	SCH	0	h	0	h	
	Practical	or seminar	15 students		0	SCH	0	h	0	h	
	Supervise	ed self-	60 students		0	SCH	0	h	0	h	
2	Learning	outcomes/comp	petences:		!	,	-			,	
	•	apply the cent solve the asso	es and identify di ral contents to se ciated tasks and I	lected pi present tl	ractical		es and case	studies ar	nd indepe		
2	• :	recapitulate th Ideally, they v	ct on the special e course content vill form learning	indepen	dently	and enh	ance their k	nowledge	during se		
3	Contents:  1.  2.  3.  4.  5.  6.	Introduction - management Sales manage management Sales manage Sales manage Sales manage Business rela	e course content	d sales in the ment of the market market (CI	n the co	ontext of	ance their keyhout the end of marketing strategic mix: Basics	nowledge tire study  : from dist  of operati	during seperiod.	elf-stud	
4	Contents: 1. 2. 3. 4. 5. 6. 7.	: Introduction management Sales manage management Sales manage management Sales manage management Sales manage Toundations of	- Distribution and to sales manager ement as a compositement in consumer ement in industriationship manager	d sales in nent onent of the er marke all market ment (CI	n the co	ontext of rketing s rketing i	ance their kelhout the end of marketing strategic mix: Basics	nowledge tire study  : from dist  of operati	during seperiod.	elf-stud	
	Contents: 1. 2. 3. 4. 5. 6. 7.  Forms of Lecture,	Introduction management Sales management Sales manage management Sales manage sales manage sales manage business rela Foundations of teaching:	e course content vill form learning  - Distribution and to sales manager ement as a composite ment in consumer ement in industriationship manager of personal selling distributions with ement in the consumer ement in industriations and the consumer ement in industriations are personal selling distributions with ement in the consumer ement in industriations are personal selling distributions.	d sales in nent onent of the er marke all market ment (CI	n the co	ontext of rketing s rketing i	ance their kelhout the end of marketing strategic mix: Basics	nowledge tire study  : from dist  of operati	during seperiod.	elf-stud	
4	Contents: 1. 2. 3. 4. 5. 6. 7.  Forms of Lecture,  Participal Formal:	Introduction management Sales management Sales manage management Sales manage Sales	e course content vill form learning  - Distribution and to sales manager ement as a component as a component in consumer ement in industriationship manager of personal selling distributions with ement in the consumer consumer to the consumer consu	d sales in ment of the ment of the ment (CI g	n the co	ontext of rketing strketing strketing strketing strketing structure of the strketing s	ance their keyhout the end of marketing strategic mix: Basics	nowledge tire study  from dist of operati	during seperiod.	elf-stud	
4	Contents: 1. 2. 3. 4. 5. 6. 7. Forms of Lecture, Participal Formal: Content:	Introduction management Sales manage Management Monagement Monagement Nonagement Nonagement Monagement Monage	e course content vill form learning  - Distribution and to sales manager ement as a composite ment in consumer ement in industriationship manager of personal selling distributions with ement in the consumer ement in industriations and the consumer ement in industriations are personal selling distributions with ement in the consumer ement in industriations are personal selling distributions.	d sales in ment of the ment of the ment (CI g	n the co	ontext of rketing strketing strketing strketing strketing structure of the strketing s	ance their keyhout the end of marketing strategic mix: Basics	nowledge tire study  from dist of operati	during seperiod.	elf-stud	
4	Contents: 1. 2. 3. 4. 5. 6. 7. Forms of Lecture, Participal Formal: Content: Forms of	: Introduction management Sales manage Sales manage management Sales manage Sales manage Sales manage Business rela Foundations of teaching: seminar-base tion requiremen None ideal assessment:	e course content vill form learning  - Distribution and to sales manager ement as a component as a component in consumer ement in industriationship manager of personal selling distributions with ement in the consumer consumer to the consumer consu	d sales in ment of the ment of the ment (CI g	n the co	ontext of rketing strketing strketing strketing strketing structure of the strketing s	ance their keyhout the end of marketing strategic mix: Basics	nowledge tire study  from dist of operati	during seperiod.	elf-stud	
4	Contents:  1. 2. 3. 4. 5. 6. 7.  Forms of Lecture,  Participal Formal: Content: Forms of Written Prerequis	Introduction management Sales management Sales manage Management Sales manage Sales manage Sales management	e course content vill form learning  - Distribution and to sales manager ement as a composite ement in consumer ement in industriationship manager of personal selling distributions with ement in consumer ement in industriationship manager of personal selling distributions with ement in consumer ement in industriationship manager of personal selling distributions with ement in consumer ement in industriations with ement in industriations with ement in consumer ement in industriations with ement in industr	d sales in ment of the ment of the ment (CI g	n the co	ontext of rketing strketing strketing strketing strketing structure of the strketing s	ance their keyhout the end of marketing strategic mix: Basics	nowledge tire study  from dist of operati	during seperiod.	elf-stud	
55	Contents: 1. 2. 3. 4. 5. 6. 7.  Forms of Lecture,  Participal Formal: Content: Forms of Written Prerequis Module	Introduction management Sales management Sales manage Management Sales manage Sales manage Sales management	e course content vill form learning  - Distribution and to sales manager ement as a composite ement in consumer ement in industriationship manager of personal selling distributions with ement in the consumer ement in industriations and the consumer ement in industriations with	d sales in nent of the market ment (CI g	n the co	ontext of rketing strketing strketing strketing strketing structures.	ance their keyhout the end of marketing strategic mix: Basics	nowledge tire study  from dist of operati	during seperiod.	elf-stud	
5	Contents: 1. 2. 3. 4. 5. 6. 7.  Forms of Lecture,  Participal Formal: Content: Forms of Written Prerequise Module Applicati	Introduction management Sales management Sales manage Management Sales manage Sales manage Sales management	- Distribution and to sales manager ement as a composite ment in consumer ement in industriationship manager of personal selling distributions with eaching with	d sales in nent of the control of th	n the co	ontext of rketing strketing strketing strketing in studies/c	f marketing strategic mix: Basics	nowledge tire study  from dist of operati	during seperiod.	elf-stud	
55	Contents: 1. 2. 3. 4. 5. 6. 7. Forms of Lecture, Participal Formal: Content: Forms of Written Prerequis Module Applicati Mechatr	Introduction management Sales management Sales manage Management Sales manage Sales manage Sales management	e course content vill form learning  - Distribution and to sales manager ement as a composite ement in consumer ement in industriationship manager of personal selling distributions with ement in the consumer ement in industriations and the consumer ement in industriations with	d sales in nent of the control of th	n the co	ontext of rketing strketing strketing strketing in studies/c	f marketing strategic mix: Basics	nowledge tire study  from dist of operati	during seperiod.	elf-stud	

10	Module coordinator:
	Prof. Dr. rer. oec. Klaus Rüdiger
11	Other information:
	Literature will be announced at the beginning of the course.
12	Language:
	German

Elec	tive Modul	e Production	Management						WPM	
Iden	tification ber:	Workload:	Credits:	Study	semest	er:	Frequency offer		Duration	1:
9004	1	150 h	5	5th seme	or ster	6th	each seme	ester	1 semes	ster
1	Course:	I	Planned group sizes		Scope	2)	Actual co / classroo teaching	ontact time om	Self-study	7
	Lecture		60 students			SCH		h		h
	Tuition in	seminars	30 students			SCH		h		h
	Exercise		20 students			SCH		h		h
	Practical of	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	d self-study	60 students			SCH		h		h
2	Learning	outcomes/comp	petences:			•		•		
3	Contents:									
4	Forms of	teaching:								
5	Participat	ion requiremen	ts:							
	Formal:									
	Content:									
6	Forms of	assessment:								
7	Prerequisi	ite for the awar	d of credit points:							
8	Application	on of the modul	le (in the following	study pr	ogramm	nes)				
			and Managemen	nt B.Sc.						
9	Importance	ce of the grade	for the final grade:							
10		oordinator:								
			ertus Wameling							
11	Other info	ormation:								
12	Language	:								
	German									

Elect	ive Modul	e Technical	Sales							WPM	
Identi numb	fication er:	Workload:		Credits:	Study	semeste	er:	Frequency offer	of the	Duration	:
9005		150 h		5	5th seme:	or ster	6th	each seme	ster	1 semes	ter
1	Course:	ourse:		Planned group sizes		Scope		Actual co / classroo teaching	ontact time m	Self-study	,
	Lecture		60	students			SCH		h		h
	Tuition in	seminars	30	students			SCH		h		h
	Exercise		20	students			SCH		h		h
	Practical of	or seminar	15	students		0	SCH	0	h	0	h
	Supervise	d self-study	60	students			SCH		h		h
2	Learning	outcomes/com	peten	ces:				•			
3	Contents:										
4	Forms of	teaching:									
5	Participati	on requirement	nts:								
	Formal:										
	Content:										
6	Forms of	assessment:									
7	Prerequisi	te for the awa	rd of	credit points:							
8	Application	on of the modu	ıle (in	the following s	tudy pro	ogramm	ies)				
				Management	B.Sc.						
9	Importanc	e of the grade	for th	ne final grade:							
10		oordinator:									
		rer. pol. Hul	ertu	s Wameling							
11	Other info	ormation:									
12	Language	•									
	German										

Elec	tive Modu	le Industrial E	Engineering and I	Manage	ment				WM	
Ident numl	rification per:	Workload:	Credits:	Stud	y semes	ter:	Frequeno offer	cy of the	Durati	on:
9003	3	150 h	5	5th	5th semester		each semester		1 semester	
1	Course:	'	Planned group sizes		Scop	e	Actual / classi teachii		Self-stu	dy
	Lecture		60 students			SCH		h		h
	Tuition in	seminars	30 students			SCH		h		h
	Exercise					SCH		h		h
	Practical	or seminar	15 students		0	SCH	0	h	0	h
	Supervise	ed self-study	60 students			SCH		h		h
2	Learning	outcomes/comp	petences:		<u> </u>	1		1		ļ.
3	Contents:									
4	Forms of	teaching:								
5	Participat	ion requiremen	ts:							
	Formal:	Î								
	Content:									
6	Forms of	assessment:								
7	Prerequis	ite for the awar	d of credit points:							
8	~ ~		le (in the following		-	nes)				
			and Manageme							
9	Importan	ce of the grade	for the final grade							
10		oordinator:	XX 1.							
	Other info		ertus Wameling							
11	Other info	ormation:								
12	Language	):								
	German									

Mate	erials Engi	neering								WT	
Ident	ification er:	Workload	l:	Credits:	Study	semest	er:	Frequency offer	of the	Duratio	on:
1281		150 h		5	2nd s	semeste	er	Annual (	Summer)	1 sem	ester
1	Course:		Pla	nned group s	sizes	izes Scope		Actual contact time / classroom teaching		Self-stud	dy
	Lecture		60	students		2	SCH	30	h	45	h
	Tuition in	seminars		students		1	SCH	15	h	22.5	h
	Exercise		20	students		0	SCH	0	h	0	h
	Practical	or seminar	15	students		1	SCH	15	h	22.5	h
	Supervise	d self-study	60	students		0	SCH	0	h	0	h
	different compara analyse t	possibiliti tively usin	es for ch g materia l behavio	ationships langing ma al paramete our taking i	terial pro	opertie: select	s and ha them ap	ve the cor opropriatel	npetence to y for the ap	evaluate plication	material. They can
3	Contents:										
	<ul><li>Mecha</li><li>Materi</li><li>Materi</li><li>Materi</li><li>Enviro</li><li>Compo</li></ul>	nical propo al behavio al changes al designa onmental ir	erties of ur (static s (heat tro tions ofluences	s/atomic, pl metals and s/dynamic le eatments, co s (corrosion als (lightwo	polymeroads) onstitution, media	rs on) resistar	nce, age	ing of plas	tics)		
4	Forms of	teaching:									
		seminar, p		course							
5		ion requiren									
	Formal:		one								
	Content:		one								
6		assessment:									
7		examinatio		redit points:							
7	_	examinatio		realt points:							
8				the following	study pr	Ogramn	nes)				
U				Managemei		Siann	100)				
9				e final grade:							
,	_	g to BRPO		Tillar grade.							
10		oordinator:									
10		-Ing. Brun	o Hüsge	n							
11	Other info										
			nnounce	d at the beg	ginning o	of the c	ourse.				
12	Language	:						-			
	German										

	ness Englis	sh							WEN		
	Identification Workload: number:		Credits:	Study	Study semester: 4th semester		Frequency of the offer Annual (Summer)		Duration	Duration:	
1285		150 h	5	4th se					1 semester		
1	Course:		Planned group sizes		Scope		Actual contact time / classroom teaching		Self-study		
	Lecture		60 students		0	SCH	0	h	0	h	
-	Tuition in seminars		30 students		4	SCH	60	h	90	h	
ľ	Exercise		20 students		0	SCH	0	h	0	h	
•	Practical or seminar		15 students		0	SCH	0	h	0	h	
•	Supervised self-study		60 students		0	SCH	0	h	0	h	
3	Learning outcomes/competences:  - Expertise: Students extend their active general language competence of B1 and reach a B2.1 level. They possess a sound specialist vocabulary of Business English and master contextually relevant grammar. They communicate spontaneously and fluently, about different business functions and can present these matters in English confidently, clearly and in detail both in speaking and in writing.  - Social competence: They try out and consolidate communicative key skills in English presentations, teamwork and project work.  - Methodological competence: They use targeted strategies for content acquisition and critical analysis of specialist texts. They solve contextual tasks. They can present economic issues in a manner appropriate to their target audience.  - Personal competence: They assume responsibility for their learning process; they research and structure authentic material, organise workloads and meet deadlines.										
3	Contents: They master the specialist terminology used in various functional business areas (e.g. entrepreneurship marketing, finance, sales, company formats).  - They possess the interdisciplinary skills to perform job-related task (emailing; presentation techniques; negotiating; leadership; problem solving).										
4	Forms of	-									
	Seminar-based teaching / individual and, group work, etc. / semester pro (Assignment)							ect			
5		on requirement									
5	Formal:	Regu	lar attendance (7								
5		Regu Engli	lar attendance (7 sh language com	petence				uropean R	eference		
5	Formal: Content:	Regu Engli	lar attendance (7	petence				uropean R	eference		
	Formal: Content: Forms of	Regu Engli Fram	lar attendance (7 sh language com ework for Langu	petence				uropean R	eference		
	Formal: Content: Forms of a	Regu Engli Fram assessment: tion examinat	lar attendance (7 sh language com ework for Langu	petence				uropean R	eference		

	Industrial Engineering and Management B.Sc.				
9	portance of the grade for the final grade:				
	according to BRPO				
10	Module coordinator:				
	OStR Cornelia Biegler-König				
11	Other information:				
	Literature will be announced at the beginning of the course. Textbook, additional				
	materials, intranet self-study courses				
12	Language:				
	English				