

Module Handbook

Bachelor of Civil Engineering

Valid since winter semester 2019/20

Hochschule für angewandte Wissenschaft und Kunst Hildesheim/Holzminden/Göttingen University of Applied Sciences and Arts

www.hawk.de/b

The module handbook lists all the compulsory and compulsory/elective advanced modules for the Bachelor's degree program in civil engineering at HAWK. Module descriptions may be revised as required and as decided by the relevant study commission, taking full account of accreditation conditions; in particular, the range of non-compulsory specialization modules (majors) may vary depending on the actual teaching capacity available.

The compulsory modules are mandatory for all civil engineering students and take place as indicated. The modules for the first four semesters are the same and mandatory for all students. Starting in the 5th semester, students are able to refine their profiles by choosing a major:

The specialization modules are offered either in the winter or in the summer semester; the details can be found in the respective module description. Students should take this into account in good time when planning their own individual studies. A total of 4 specialization modules for the major are to be completed; 3 of these are scheduled in the fifth semester of the standard period of study, and another practical or special project is to be completed in the seventh semester in connection with the final thesis. It cannot be guaranteed that all the specialization modules will take place in the specified semester in each case; this applies in particular to modules in which the use of teaching assistants is planned.

The specialization modules are for the most part assigned to the three Bachelor majors of

- Structural civil engineering
- Water and traffic engineering
- Construction operations/construction management

If a specialization (major) is to be shown on the certificate, then 2 specialization modules, a practical or special project as well as the Bachelor's thesis itself must be assigned to this

specialization (a total of 30 credit points). It is also possible to not to choose any specific major; then the specialization modules can be combined as desired.

A basic offer with the required minimum number of specialization modules for the major selected is only ensured in the winter semester; students are not entitled to have any specific specialization modules take place. Specialization modules with fewer than 5 participants cannot be held. These constraints, necessary for the maintenance of an orderly lecture schedule, must be taken into account by the students in the individual planning of their course of study.

It is strongly recommended that students choose the specialization modules, the practical semester, the practical project as well as the final thesis including the corresponding preparation module with great care and that they combine their courses in the best possible way. To do so, students are strongly advised to seek academic counseling.

The Bachelor's degree awarded upon completion of the program is a first professional qualifying degree at Level 1 of the Qualifications Framework for German Higher Education Qualifications. The degree qualifies the student to enter studies at Level 2 (Master's programs).

Module overview:

Modul e no.	Module name	Credit points/semester			Work load	Course attendan ce time	Home study	Type of exam				
		1	2	3	4	5	6	7				
	Representation, CAD	4								60	60	
BA 1-1	Engineering computer science*		2						180	30	30	ST
BB 1-2	Building materials science 1	6							180	90	90	K2
BB 1-3	Building construction 2, Building physics 1	6							180	90	90	K2
BB 1-4	Technical mechanics, static, structural design	6							180	90	90	К2
BB 1-5	Mathematics 1, Natural sciences	8							240	90	150	K2
BB 2-1	Building construction, Building physics 2		6						180	75	105	ST
BB 2-2	Building materials science 2		6						180	90	90	K2
BB 2-3	Surveying		6						180	90	90	ST
BB 2-4	Technical mechanics, static, structural design 2		6						180	90	90	К2
BB 2-5	Mathematics 2, statistics		4						120	60	60	K2
BB 3-1	Structural engineering project			6					180	60	120	PA
BB 3-2	Traffic and water engineering*			3	3				180	45 45	45 45	K2
BB 3-3	Urban water management*			3	3				180	45 45	45 45	K2
BB 3-4	Technical mechanics, static, structural design 3			3					90	45	45	K2
BB 3-5	Basic principles of hydraulics			3					90	30	60	K1
BB 3-6	Geotechnics 1			6					180	90	90	K2
BB 3-7	Solid construction 1, Brickwork construction			6					180	90	90	K2
BB 4-1	Infrastructure project				6				180	60	120	PA
BB 4-4	Building operations 1				6				180	60	120	K2
BB 4-5	Basic principles of steel and wood engineering				6				180	90	90	K2
BB 4-6	Solid construction 2				6				180	60	120	K2
BB 5-1	Structural engineering or water engineering project**					6			180	60	120	PA
BB 5-2	Building operations 2					6			180	60	120	K2
BBV xx	A total of three specialization					6			180	60	120	indiv.
BBV xx	modules, if a major is chosen,					6			180	60	120	indiv.
BBV xx	specialization					6			180	60	120	indiv.

Modul e no.	Module name	Credi	it po	ints/	seme	ester		Work load	Course attendan ce time	Home study	Type of exam
BB 6-1	Practical training phase					30		750	10	740	ST
BBV 98	Practical training project***						6	180	3	177	ST
BB 7-1	Individual profile studies (HAWK plus)						6	180	60	120	indiv.
BB 7-3	Module for preparation of the final thesis						6	180	3	177	ST
BB 7-4	Bachelor's thesis						12	360	6	354	AA

* more than one semester

** For students majoring in Structural engineering or Water and Traffic engineering, the project BB 5-1 belonging to the specialization is obligatory. If majoring in Construction operations/construction management or not choosing a major, students must choose between the two topics offered in Project BB 5-1.

*** for the chosen major, can be replaced by another specialization module for this major (if available); if no major is chosen: freely selectable BBV-module

Compulsory elective modules/majors modules

Module no.	Module name	Credit points	Work load	Course attendan ce time	Home study	Type of exam Weighting
Majors mo	dules in general					
BBV-06	Geotechnics 2	6	180	60	120	K2
BBV-07	Mudbrick building	6	180	60	120	ST
BBV-08	Building damages and redevelopment	6	180	60	120	R
BBv-09	Higher concrete technology	6	180	60	120	K2
BBV-98	Practical training project	6	180	3	177	ST
BBV-99	Special project	6	180	60	120	ST
Major: Str	uctural engineering					
BBV-33	Special areas of solid construction and FEM	6	180	60	120	ST+K2 (50% each)
BBV-34	Prestressed concrete and prefabricated construction 1	6	180	60	120	K2
BBV-36	Basic Principles of bridge building	6	180	60	120	ST
BBV-37	Steel engineering	6	180	60	120	К2
BBV-38	Wood engineering	6	180	60	120	К2
Major: Wa	ter and traffic engineering		1	1	1	
BBV-62	Water management and water engineering	6	180	60	120	К2
BBV-63	Water engineering in actual practice	6	180	60	120	ST
BBV-64	Drinking water and wastewater networks	6	180	60	120	К2
BBV-66	Drinking water, wastewater, waste in developing countries	6	180	60	120	R
BBV-67	Streets and roadways	6	180	60	120	ST
BBV-68	Designing traffic facilities	6	180	60	120	ST

Module no.	Module name	Credit points	Work load	Course attendan ce time	Home study	Type of exam Weighting
BBV-69	Railroad construction	6	180	60	120	ST
BBV-70	Traffic engineering in actual practice	6	180	60	120	ST
BBV-71	Current topics from streets and roadways	6	180	60	120	ST+K1 (50% each)
Major: Bui	lding operations/building management					
BBV-81	Building operations 3	6	180	60	120	K2
BBV-82	Building supervision and site management	6	180	60	120	K1
BBV-83	Project management	6	180	60	120	ST
BBV-84	Safety and health protection during construction work	6	180	60	120	К2

Allocation to cours	e of study	Module name	Course	code	Internal	Last updated	updated		
Bachelor of Civ	/il Engineering	Descriptive	e geometry.	BA	1-1		21.07.2021		
Study semester 1st+2nd semester	Offered in WS + SS	CAD, En compute	gineering er science	Credit p 6 CP	ooints		Semester week 6 SWS	hours	
Allocation to study All Can also be credite	specialization	Responsible for modu Prof. DrIng. Ma	^{ile} rtin Klaus	Type of Lectu	teaching re, exer	, group size, cises and	if applicable group exercis	pplicable oup exercises	
	a to study program			Germ	ian	uction			
Requirements acco	ording to examination re	gulations	Recommended pre	requisites					
tudy/examination	achievements/evamin	ation types	If applicable, weigh	ting of the s	tudy/exar	nination ach	ievements		
Student resear	rch paper without c	colloquium	Semester-spar 1/3 DesGeo; 1	ning mod /3 CAD; 1/	ule; Des '3 Engin	Geo and eering co	CAD in 1st sen mputer scienc	nester :e	
/odule objecti	ves/desired learnin	ng outcomes:							
developed or i	mproved ability to ilding objects using	visualize spatially. Th g Autocad software.	ey are able to pro	oduce simp	ole floor	plan, viev	w and section	al	
Engineering co Students learn They know how spreadsheet p They have imp commercial CA	mputer science the basics of progr w computers basica rogram and add the roved their analytic ND construction sof	ramming based on VE ally operate, the fund eir own simple VBA so cal, structured way of tware.	BA and drawing de amentals of prog cripts. f thinking. They a	esign plans ramming a re able to	s using c and are create c	commercia able to us onstructio	al CAD softwa e the Excel on drawings u	re. sing	
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Allocation to course of study	Module name		Course	code	Internal	Last update	ed
Bachelor of Civil Engineering	Building mat	orials ssions	BE	3 1-2		17.12.20)20
Study semester Offered in 1st semester WS	_ building mate		Credit	points		Semester v 6 SWS	veek hours
Allocation to study specialization	Responsible for modul	e Marguardt	Type of	f teaching	g, group size,	if applicable	arouns
Can also be credited to study program		viarquarut	Langua	ige of inst	ruction		groups
-			Germ	nan			
Requirements according to examination reg	ulations	Recommended prer	equisites				
Study/examination achievements/ examination Written examination (K2) -	tion types	If applicable, weight	ing of the s	tudy/exa	mination ach	ievements	
Module objectives/desired learning	g outcomes:						
Students acquire basic knowledge They learn the basic principles for durability, as well as building physi They acquire practical experience i constituents as well as on fresh an They are enabled to independently	of the properties of the appropriate use of the appropriate use of the appropriate use of the standard-composition of the standard-composition of the standard-composition of the standard concrete of expand and update of the standard of th	ouilding materials of building materi oliant performanc s. learned knowled	and thei als with r e and eva ge from t	r behav regard t aluatior the area	vior under o load-bea n of materi	different s aring beha al tests on	tresses. vior and
 Basic studies: Technical building of material testing and quality assu behavior towards liquids and gases Mineral binding agents: Cement Raw materials for concrete prod 	regulations; systema irance; microstructur ;; thermal behavior; f , plaster, lime, magne uction	atics of building m re and structure c fire behavior esia binder, clay	aterials a	and buil g mater	ding mate ials; mech	rial proper anical beh	rties; basics avior;
4. Concrete: Classification of fresh processing and quality assurance; s special requirements; mortars	and hardened concre strength and deforma	etes; test method ation behavior of	s; mixtur normal c	es for n oncrete	ormal con e; durabilit	cretes; pro y; concret	oduction, es for
Course attendance time (in manda	tory hours - LVS)	Workload (in ho	ours)				
Prof. DrIng. Iris Marquardt	6 LVS	Course attendar	nce time	Home	study		
	-	Lecture	80 h	Cours	e accompa	anying	00 h
	-	Exercise	10 h	and e	xam prepa	iration	90 N
Total classroom time	6 LVS	Total workload					180 h
Optional extra							
Literature is listed in Stud.IP							

Bachelor of Civil Engineering Building construction, Building physics 1 BB1-3 Credit poins Semistree week hours GSVS Credit poins Semistree week Semistree week hours GSVS Credit poins Semistree week Semistree week hours GSVS Credit poins Semistree week Semistree week Semistree week hours GSVS Credit poins Semistree week Semistree week hours	Allocation to course	e of study	Module name		Course c	ode	Internal	Last updat	ed
Study sumster J st sensets// St sensets// St sensets// Conductor to study specialization Fundiating physics 1 Credit points Sensets// Conductor to study specialization Credit points Sensets// Sensets// Page of sensible, sensets// Sensets/ Sensets/ Sensets// Sensets// Sensets/ Sensets// Sensets// Sense	Bachelor of Civ	il Engineering	Building co	nstruction.	BB	1-3		01.09.20	18
Allocation to study spectatization Recombine for module Type of teachine, group size if applicable Can also be credited to study program N.N. Improve of eachine, group size if applicable Requirements according to examination regulations Recommended prerequires Improve of eachine, group size if applicable Written examination achievements/ examination types If applicable, weighting of the study/examination achievements Written examination (K2) If applicable, weighting of the study/examination achievements - N.N. If applicable, weighting of the study/examination achievements Written examination (K2) If applicable, weighting of the study/examination achievements - - N.N. Module objectives/desired learning outcomes: Students acquire basic knowledge of the elements of load-bearing and non-load-bearing building structures and their modes of action and interdependencies in terms of building physics. - They are able to apply design rules and put them into practice independencity. - Ability to recognize the structural and physical dependencies and to design and verify solutions for the serviceability of components and buildings. Contents: Basic principles of Building design 1: Structural studition, onsport studies of studies construction, floor cellings, floors, doors, stairs, staircases, elevators Basic principles of Building physics 1: Basic principles of f	Study semester 1st semester	Offered in WS	Building	physics 1	Credit po 6 CP	oints		Semester v 6 SWS	week hours
Construction Language of instruction Requirements according to examination regulations Recommended prerequisites Study/examination achievements/ examination types If applicable, weighting of the study/examination achievements Written examination (K2) If applicable, weighting of the study/examination achievements - Module objectives/desired learning outcomes: Students acquire basic knowledge of the elements of load-bearing and non-load-bearing building structures and their modes of action and interdependencies in terms of building physics. - They are able to recognize the structural, functional and design interrelationships and dependencies in execution and detail planning. - They are able to recognize the structural and physical dependencies and to design and verify solutions for the serviceability of components and buildings. Contents: Basic principles of Building design 1: Structural stability, load-bearing elements and load-bearing systems Shell construction, timber frame construction, wood protection, sloping roofs, flat roofs, steel construction, floor ceilings, floors, doors, stairs, staircase, elevators Basic principles of Building physics 1: Basic principles of Building hysics 1: Basic principles of heat and moistu	Allocation to study	specialization	Responsible for modul	e	Type of t Lectur	teaching, g 'e, exerc	group size, ise	if applicable	
Recommended prerequisites Study/examination achievements/ examination types If applicable, weighting of the study/examination achievements Written examination (K2) If applicable, weighting of the study/examination achievements Module objectives/desired learning outcomes: Students acquire basic knowledge of the elements of load-bearing and non-load-bearing building structures and their modes of action and interdependencies in terms of building physics. - They are able to recognize the structural, functional and design interrelationships and dependencies in execution and detail planning. - They are able to apply design rules and put them into practice independently. - Ability to recognize the structural and physical dependencies and to design and verify solutions for the serviceability of components and buildings. Contents: Basic principles of Building design 1: Structural stability, load-bearing elements and load-bearing systems Shell construction, such as foundation/earthwork, masonry, waterproofing, concrete construction, timber construction, floor ceilings, floors, doors, stair, staircase, elevators Basic principles of Building physics 1: Basic principles of building bysics 1: Basic principles of heat and moist	Can also be credited	d to study program			Languag Germa	e of instru an	ction		
Study/examination achievements/ examination types If applicable, weighting of the study/examination achievements Written examination (K2) If applicable, weighting of the study/examination achievements Module objectives/desired learning outcomes: Students acquire basic knowledge of the elements of load-bearing and non-load-bearing building structures and their modes of action and interdependencies in terms of building physics. - They are able to recognize the structural, functional and design interrelationships and dependencies in execution and detail planning. - They are able to apoly design rules and put them into practice independently. - Ability to recognize the structural and buysical dependencies and to design and verify solutions for the serviceability of components and buildings. Contents: Basic principles of Building design 1: Structural stability, load-bearing systems Shell constructions, such as foundation/earthwork, masonry, wateproofing, concrete construction, timber construction, facade, windows, thermal insulation composite systems; finishing constructions such as drywall construction, floor cellings, floors, doors, stairs, staircases, elevators Basic principles of Building physics 1: Basic principles of heat and moisture transport, contents of DIN 4108 thermal insulation such as minimum thermal insulation, climate-related moisture protection Processes and verification Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof, Matthias Pätzold 5 LVS Course attendance time Home study	Requirements acco	rding to examination reg	ulations	Recommended pre	erequisites				
Module objectives/desired learning outcomes: Students acquire basic knowledge of the elements of load-bearing and non-load-bearing building structures and their modes of action and interdependencies in terms of building physics. - They are able to recognize the structural, functional and design interrelationships and dependencies in execution and detail planning. - They are able to apply design rules and put them into practice independently. - Ability to recognize the structural and physical dependencies and to design and verify solutions for the serviceability of components and buildings. Contents: Basic principles of Building design 1: Structural stability, load-bearing elements and load-bearing systems Shell constructions such as foundation/earthwork, masonry, waterproofing, concrete construction, floor ceilings, floors, doors, stairs, staircases, elevators Basic principles of Building physics 1: Basic principles of building physics 1: Basic principles of building physics 1: Basic principles of heat and moisture transport, contents of DIN 4108 thermal insulation such as minimum thermal insulation, climate-related moisture protection Processes and verification Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof. Matthias Pătzold 5 LVS Course attendance time Home study Assistant lecturer 1 LVS Ecture 60 h Course accompanying and exam prepa	Study/examination Written examin -	achievements/ examina nation (K2)	tion types	If applicable, weig	hting of the stu	udy/exami	nation ach	ievements	
Students acquire basic knowledge of the elements of load-bearing and non-load-bearing building structures and their modes of action and interdependencies in terms of building physics. - They are able to recognize the structural, functional and design interrelationships and dependencies in execution and detail planning. - They are able to apply design rules and put them into practice independently. - Ability to recognize the structural and physical dependencies and to design and verify solutions for the serviceability of components and buildings. Contents: Basic principles of Building design 1: Structural stability, load-bearing elements and load-bearing systems Shell constructions such as foundation/earthwork, masonry, waterproofing, concrete construction, timber construction, facade, windows, thermal insulation composite systems; finishing constructions such as drywall construction, floor ceilings, floors, doors, stairs, staircases, elevators Basic principles of Building physics 1: Basic principles of and molsture transport, contents of DIN 4108 thermal insulation such as minimum thermal insulation, climate-related molsture protection Processes and verification Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof. Matthias Patcold 5 LVS Course attendance time Home study Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - Exercise 30 h	Module objectiv	ves/desired learnin	g outcomes:						
Contents: Basic principles of Building design 1: Structural stability, load-bearing elements and load-bearing systems Shell constructions such as foundation/earthwork, masonry, waterproofing, concrete construction, timber construction, timber panel construction, timber frame construction, wood protection, sloping roofs, flat roofs, steel construction, facade, windows, thermal insulation composite systems; finishing constructions such as drywall construction, floor ceilings, floors, doors, stairs, staircases, elevators Basic principles of Building physics 1: Basic principles of heat and moisture transport, contents of DIN 4108 thermal insulation such as minimum thermal insulation, climate-related moisture protection Processes and verification Prof. Matthias Pätzold 5 LVS Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof. Matthias Pätzold 5 LVS Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - Optional extra 180 h	Students acqui modes of actio - They are able and detail plan - They are able - Ability to reco the serviceabili	re basic knowledge n and interdepende to recognize the str ning. to apply design rule ognize the structura ty of components a	of the elements of lo encies in terms of bui ructural, functional a es and put them into I and physical depend and buildings.	bad-bearing and Iding physics. nd design interro practice indepe dencies and to d	non-load-be elationships ndently. esign and ve	earing b and dep erify solu	uilding s pendenc utions fo	tructures a ies in exec r	and their cution
Basic principles of Building design 1: Structural stability, load-bearing elements and load-bearing systems Shell constructions such as foundation/earthwork, masonry, waterproofing, concrete construction, timber construction, timber frame construction, wood protection, sloping roofs, flat roofs, steel construction, flacade, windows, thermal insulation composite systems; finishing constructions such as drywall construction, floor ceilings, floors, doors, stairs, staircases, elevators Basic principles of Building physics 1: Basic principles of heat and moisture transport, contents of DIN 4108 thermal insulation such as minimum thermal insulation, climate-related moisture protection Processes and verification Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof. Matthias Pätzold 5 LVS Course attendance time Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - - 0 ther 180 h Optional extra 6 LVS Total workload 180 h	Contents:								
Basic principles of Building physics 1: Basic principles of heat and moisture transport, contents of DIN 4108 thermal insulation such as minimum thermal insulation, climate-related moisture protection Processes and verification Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof. Matthias Pätzold 5 LVS Course attendance time Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - 0 ther 1 180 h Optional extra Optional extra 180 h 1	Basic principles Structural stabi Shell construct timber panel co facade, windov ceilings, floors,	of Building design lity, load-bearing el ions such as founda onstruction, timber vs, thermal insulatio doors, stairs, stairc	1: ements and load-beation/earthwork, mas frame construction, son composite system ases, elevators	aring systems onry, waterproc wood protectior s; finishing const	ofing, concre n, sloping ro tructions su	ete const ofs, flat ch as dry	truction, roofs, st ywall coi	timber co eel constr nstruction	onstruction, uction, , floor
Course attendance time (in mandatory hours - LVS) Workload (in urs) Prof. Matthias Pätzold 5 LVS Course attendance time Home study Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h Image: Course accompanying and exam preparation 90 h 100 h 100 h 100 h Image: Course accompanying and exam preparation 90 h 100 h 100 h 100 h Image: Course accompanying and exam preparation 100 h 100 h 100 h 100 h Image: Course accompanying and exam preparation 100 h 100 h 100 h 100 h Image: Course accompanying and exam preparation 100 h 100 h 100 h 100 h Image: Course accompanying and exam preparation 100 h 100 h 100 h 100 h 100 h Image: Course accompanying and exam preparation 100 h 100 h <td< td=""><td>Basic principles Basic principles insulation, clim</td><th>of Building physics of heat and moistuate-related moistu</th><th>1: are transport, conten re protection Process</th><td>ts of DIN 4108 tl es and verificati</td><td>hermal insul on</td><td>lation su</td><td>ich as mi</td><td>inimum th</td><td>ermal</td></td<>	Basic principles Basic principles insulation, clim	of Building physics of heat and moistuate-related moistu	1: are transport, conten re protection Process	ts of DIN 4108 tl es and verificati	hermal insul on	lation su	ich as mi	inimum th	ermal
Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof. Matthias Pätzold 5 LVS Course attendance time Home study Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - Exercise 30 h and exam preparation 90 h Total classroom time 6 LVS Total workload 180 h Optional extra Literature is listed in Stud.IP Image: Stud.IP Image: Stud.IP Image: Stud.IP									
Course attendance time (in mandatory hours - LVS) Workload (in hours) Prof. Matthias Pätzold 5 LVS Course attendance time Home study Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - - Exercise 30 h and exam preparation 90 h Total classroom time 6 LVS Total workload 180 h Optional extra - - - - - Literature is listed in Stud.IP - - - - - -									
Prof. Matthias Pätzold 5 LVS Course attendance time Home study Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - Other - Other 180 h Optional extra - Is listed in Stud.IP - -	Course attenda	nce time (in manda	tory hours - LVS)	Workload (in h					
Assistant lecturer 1 LVS Lecture 60 h Course accompanying and exam preparation 90 h - Exercise 30 h and exam preparation 90 h Total classroom time 6 LVS Total workload 180 h Optional extra Literature is listed in Stud.IP	Prof. Matthias	Pätzold	5 LVS	Course attenda	ance time	Homes	tudv		
- Exercise 30 h and exam preparation 90 h - Other - Other 180 h Optional extra - Islight of the studie - 180 h	Assistant lectur	rer	1 LVS	Lecture	60 h	Course	accompa	anying	
- Other Total classroom time 6 LVS Total workload 180 h Optional extra			-	Exercise	30 h	and exa	m prepa	ration	90 h
Total classroom time 6 LVS Total workload 180 h Optional extra Image: Control of the second se			-	Other					
Optional extra Literature is listed in Stud.IP	Total classroom	n time	6 LVS	Total workload	d				180 h
Literature is listed in Stud.IP	Optional extra								
	Literature is listed in Stu	d.IP							

Allocation to course	of study	Module name		Course	code	Internal	Last updated	
Bachelor of Civ	il Engineering	Technical r	nechanics,	BB	1-4		01.09.2018	
Study semester 1st semester	Offered in WS	Static, Struct	ural design 1	Credit p 6 CP	oints	L	Semester week hours 6 SWS	
Allocation to study s	specialization	Responsible for modul	e anio Stonnolor	Type of	teaching,	group size,	if applicable	
Can also be credited	l to study program	Prof. Dring. Ster	anie Steppeler	Languag	ge of instr	uction		
-		lations	Decementaria	Germ	an			
Requirements accor	ding to examination regu	liations	Recommended prere	quisites				
Study/examination a Written examin	achievements/ examinat nation (K2)	ion types	If applicable, weightin	ng of the st	udy/exam	nination ach	ievements	
Module objectiv	es/desired learning	outcomes:						
Students • are confident • master the ba • are able to me • learn to calcu represent the	in their use of relev isic principles and m odel load-bearing sy late support reactio state lines.	ant quantities and te nethods of statics of s rstems for simple str ns and internal force	erms of engineerin statically determin uctures. es of statically dete	ig mecha late plan erminate	nics. e syster plane s	ns. ystems ar	d to	
Contents:								
 Forces, mome Equilibrium an Basic principle Stability of rig Basic termino Model buildin Method of set Support react Load case sup 	entum and force sys nd equivalence es of the safety cond id bodies logy used in structu g ctions, shear diagran ions and internal fo erposition	tems cept (actions and res ral engineering, type m rces of statically dete	istances) es of structures and erminate plane sys	d their ar	oplicatic	on		
Course attenda	nce time (in mandat	tory hours - LVS)	Workload (in hou	urs)				
Prof. Dr. S. Step	peler	6 LVS	Course attendand	ce time	Home	study		
		-	Lecture 7	5 h	Course	accompa	nying ration 90 h	
		-	Exercise 1	5 fi		ani prepa		
Total classroom	time	6 LVS	Total workload				180 h	
Optional extra Tutorial		1	1				1	
Literature is listed in Stud	J.IP							

Allocation to course of study	Module name		Course	code	Internal	Last updated		
Bachelor of Civil Engineering	Mathema	atics 1 and	BB	8 1-5		04.07.2019		
Study semester Offered in 1st semester WS	Natural	sciences	Credit p 8 CP	ooints		Semester week hours 6 SWS		
Allocation to study specialization	Responsible for modu	ile	Type of	teaching,	, group size,	if applicable		
-	Prof. DrIng. Axe	el Stödter	Lectu	Lecture				
-			Germ	ian	uction			
Requirements according to examination regu	llations	Recommended pre	requisites					
Study/examination achievements/ examinat	on types	If applicable, weigh	nting of the s	tudy/exan	nination ach	ievements		
Written examination (K2) -		2/3 mathemat	ics, 1/3 na	itural sc	iences			
Module objectives/desired learning	outcomes:							
 Students master mathematical tec the field of civil engineering. Students acquire the structured exists. 	hniques, procedure	es and algorithms orking methods o	as a prere	equisite atics as	for solvin	g problems in e skills of		
engineers.								
- They are confident in the applicati and biology as a prerequisite for s	on of basic knowled olving interdisciplin	dge from the natu ary engineering p	ural scienc problems.	es of ph	ysics, che	mistry		
 Determinants and matrices, equat Vector concept, vector operations Functions, types of functions, prop Differential calculus with applicati Physical unit systems Basic principles of thermal dynam Electricity Atomic structure, bond types Stoichiometric calculations Acid-base equilibria, redox reaction Classification and growth of (microsona) 	ion systems , vector algebra perties of functions, ons in geometry an ics ns p) organisms	, limits d technology						
Course attendance time (in mandat	ony hours - LVS	Markland (in h	o					
Prof. Dr. A. Stödter	21VS	Course attenda	nce time	Home	studv			
Prof. Dr. G. Bahre	2 LVS	Lecture	90 h	Course	e accompa	anying		
Assistant lecturer	2 LVS	Exercise		and ex	am prepa	aration 150 h		
	-	Other						
Total classroom time	6 LVS	Total workload	l			240 h		
Optional extra Tutorial								
Literature is listed in Stud.IP								

Allocation to course	e of study	Module name		Course	code	Internal	Last updated
Bachelor of Civ	il Engineering	Building co	onstruction	BB	8 2-1		22.02.2019
Study semester 2nd semester	Offered in SS	Building	physics 2	Credit p 6 CP	ooints		Semester week hours 5 SWS
Allocation to study	specialization	Responsible for mode Prof. DrIng. Pet	^{ule} ter Leimer	Type of Lectu	f teaching Ire with	g, group size, integrate	if applicable d exercises
Can also be credited	d to study program			Langua	ge of inst	ruction	
Requirements acco	rding to examination re	egulations	Recommended pr	rerequisites	ian		
Study/examination	achievements/ examir	nation types	If applicable, weig	thing of the st	tudy/exa	mination ach	lievements
Student resear	ch paper without	colloquium					
	vac/dasivad laavai						
nodule objectiv	es/desired learni	ng outcomes:					
- Students acqu	ire basic knowled	ge of designing, planı	ning, working thr	ough and d	Irawing	a constru	ction project.
- They are able	to recognize the s	tructural, design, fun	ictional, economi	ic and energ	gy requ	irements	of construction
	ontext using the e		LIOIT LASK.				
- They are enab	led to develop the	eir own learning strat	egies and condu	ct independ	dent res	search.	
-		_	-				
`ontonto:							
ontents.	6 H .						
Basic principles	of planning:	s codo, colculation o	farea and chace				
basic urarting, i		is coue, calculation o	i alea allu space				
Building constr	uction 2:						
Basic principles	of drafting and de	esigning					
Development o	of a planning conce	ept for a building und	er structural and	physical bo	oundary	conditio	าร
Puilding physic	c)						
Energy and env	s z vironment, basic p	rinciples of energy-sa	iving thermal insi	ulation			
according to Er	EV. Basic principle	es of acoustics, sound	propagation and	d sound			
insulation							
Basic principles	of fire safety						
Calculations wi	th building physics	computer programs	(in groups) to pr		coving	construct	ion and coundaroo
	th building physics		(in groups) to pr	ove energy	-saving	construct	
Course attenda	nce time (in mand	latory hours - LVS)	Workload (in l	hours)			
Prof. Dr. P. Leir	ner	4 LVS	Course attend	ance time	Home	study	
Assistant lectur	rer	4 LVS	Lecture	60 h	Cours	e accomp	anying
		-	Exercise	15 h	and e	xam prepa	aration 105 h
		-	Other	Ļ			
Total classroom	n time	8 LVS	Total workloa	d			180 h
optional extra							
Literature							
is listed in Stu	d.IP						

Allocation to course	of study	Module name		Course	code	Internal	Last updated
Bachelor of Civ	il Engineering	Building mat	erials science	BE	3 2-2		17.12.2020
Study semester 2nd semester	Offered in SS		2	Credit 6 CP	points		Semester week hours 6 SWS
Allocation to study s	specialization	Responsible for modul	e	Туре о	f teaching,	group size,	if applicable
All Can also be credited	to study program	Prof. DrIng. Iris I	Marquardt	Langua	ire, prac	tical lab t	raining in groups
-				Germ	nan		
Requirements accor	ding to examination reg	ulations	Recommended prere	equisites		1 2)	
Study/examination	achievements/ examinat	tion types	If applicable, weight	ng of the s	tudv/exan	L-Z) nination ach	lievements
Written examir	nation (K2)						
-							
Module objectiv	es/desired learning	g outcomes:					
bearing behavio They acquire po and asphalt as They are enable Contents:	or and durability as ractical experience i well as wood and w ed to independently	well as building phys n standard-compliar ood-based materials / expand and update	sics requirements. It performance an learned knowled	d evalua ge from t	tion of r	naterial to	ests on metal, bitumen
 Metallic build steels, prestres metals Wood and w Bitumen and Synthetic ma Natural and a Masonry/brid Building glass 	ding materials: Basic sing steels, welding, ood-based material asphalt terials in the buildir artificial stones: Cor ckwork	c principles of metall , non-ferrous metals, s ng industry nposition, properties	urgy, steel and ca , corrosion and co s, areas of applicat	st iron, si rrosion p :ion	tructura protectic	l steels, re	einforcing truction
Course attenda	nce time (in manda	tory hours - LVS)	Workload (in ho	urs)			
Prof. DrIng. Ir	is Marquardt	6 LVS	Course attendan	, ce time	Home	study	
		-	Lecture 8	30 h	Course	e accompa	anying
		-	Exercise 2	LO h	and ex	am prepa	aration 90 h
Total classroom	time	-	Uther Total workload				100 b
Optional extra		0 LV3					100 11
Literature is listed in Stud	J.IP						

Allocation to course	e of study	Module name		Course	code	Internal	Last updat	ed
Bachelor of Civ	il Engineering	Surv	oving	BB	2-3		01.09.20)18
Study semester 2nd semester Allocation to study	Offered in SS specialization	Responsible for modu Prof. DrIng. Axe	le Stödter	Credit p 6 CP Type of Lectu	teaching res wit	g, group size, h practica	Semester v 6 SWS if applicable exercises	week hours
Can also be credited	d to study program			Langua	ge of inst	ruction		
Requirements acco	rding to examination regu	lations	Recommended	Germ	an			
Study/examination	achievements/ examinati	on types	If applicable, we	ighting of the s	tudy/exa	mination ach	nievements	
Student resear	ch paper without co	lloquium						
-								
Module objectiv	ves/desired learning	outcomes:						
evaluations of accuracies and with special ref as well as for ir	professional practice increase them, if ne- rence to the projec iventories for redeve	They should be a cessary. They are to t study in the field opment objects.	ole to estimate o acquire practi of planning and	required cal knowled l constructic	ge n			
Contents: - Basic principle - Building surve - Staking out bu - Leveling - Recording the - Determining a - Trigonometry - Routing eleme	es of surveying y uildings profile area and mass , introduction to tack ents for road constru	nymetry, traverse li liction, etc.	ne, tachymetric	c survey				
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in	hours)				
Prof. DrIng. A	xel Stödter	6 LVS	Course atten	dance time	Home	study		
DiplIng. S. We	ethkamp	4 LVS	Lecture	30 h	Cours	e accompa	anying	
		-	Exercise	60 h	and e	xam prepa	aration	90 h
Tetelal	A*	-	Other					
I OTAI Classroom	i time	10 LVS	lotal worklo	ad				180 h
Literature is listed in Stu	d.IP							

Allocation to course	e of study	Module name	Course	code	Internal	Last update	d	
Bachelor of Civ	il Engineering	Technical	mechanics.	BE	3 2-4		01.09.201	18
Study semester 2nd semester	Offered in SS	Static, Struct	ural design	2 Credit	points	1	Semester w 6 SWS	eek hours
Allocation to study	specialization	Responsible for modu	le Famile Champeller	Type of	f teaching,	group size,	if applicable	
Can also be credite	d to study program	Prof. DrIng. Stef	fanle Steppeler	Langua	ge of instr	uction	u exercises	
-				Germ	nan			
Requirements acco	rding to examination regu	llations	Recommended pre	requisites				
Study/examination	achievements/ examinati	on types	If applicable, weigh	ting of the s	tudy/exam	nination ach	ievements	
Written exami	nation (K2)							
-								
Module objectiv	ves/desired learning	outcomes:						
Students								
learn to calcu	llate support reaction	ns and internal force	es of statically de	terminate	plane sv	vstems ar	nd to repres	sent
the state line	S.					,		
 acquire skills 	for determining the	internal stress of pa	arts of the structu	ire.				
 learn how to 	determine stresses o	due to normal force,	, shear force, ben	ding and	torsion.			
 acquire the p 	rerequisites for the r	material-dependent	design and dime	nsioning o	of load-b	earing st	ructures an	d
structural par	rts.							
Contents:								
• Support read	tions and internal for	rces of statically det	erminate plane s	tructures				
 Stresses, stra 	in, sliding, material la	aws						
Cross-section	values							
Normal stres	ses due to normal fo	rce and bending						
 Shear stresse 	s due to shear force	and torsion						
 Normal stress 	ses with failure in the	e tensile zone						
 Stress states, 	principal stresses an	nd strength hypothe	ses					
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	ours)				
Prof. Dr. S. Ste	ppeler	6 LVS	Course attenda	nce time	Home	studv		
		-	Lecture	75 h	Course	accompa	anying	
		-	Exercise	15 h	and ex	am prepa	ration	90 h
		-	Other					
Total classroon	n time	6 LVS	Total workload		1			180 h
Optional extra		I	J				I	
Tutorial								
Literature								
is listed in Stu	d.IP							
is listed in Stu	u.ii							

eering Mathel in Si ion Responsible for r program Prof. DrIng. amination regulations ents/ examination types ents/ examination types ents/ examination types iz2) red learning outcomes: ematical techniques, procedulations entities outcomes and the indication of the inding and the indication of the inding and the indication	matics 2 with tatistics module Axel Stödter Recommended If applicable, w	h BE Credit 4 CP Type o Lectu Langua Gern d prerequisites reighting of the s	3 2-5 points f teaching, are age of instr han tudy/exan	group size, ruction nination achi	04.07.2 Semester 4 SWS if applicable ievements g problem e skills of	019 week hours
in Si ion Responsible for r Prof. DrIng. program amination regulations ents/ examination types (2) red learning outcomes: ematical techniques, proce- eering. tructured exact thinking an	tatistics module Axel Stödter Recommended If applicable, w	Credit 4 CP Type o Lectu Langua Gern d prerequisites	points f teaching, are age of instr nan tudy/exan	group size, ruction nination achi	Semester 4 SWS if applicable ievements g problem e skills of	ns in
ion Responsible for r program Prof. DrIng. amination regulations ents/ examination types c2) red learning outcomes: ematical techniques, proceedering. tructured exact thinking an	module Axel Stödter Recommended If applicable, w edures and algorith ad working method	Type o Lectu Langua Gern d prerequisites reighting of the s	f teaching, ure ige of instr nan itudy/exan	group size, ruction nination achi for solving one of the	if applicable ievements g problem e skills of	ns in
amination regulations ents/ examination types (2) red learning outcomes: ematical techniques, proce- eering. tructured exact thinking an	Recommended If applicable, w	Langua Gern d prerequisites reighting of the s	equisite	for solving	ievements g problem e skills of	ns in
amination regulations ents/ examination types (2) red learning outcomes: ematical techniques, proce- eering. tructured exact thinking an	Recommended If applicable, w	eighting of the s	equisite natics as	nination achi	ievements g problem e skills of	ns in
ents/ examination types (2) red learning outcomes: ematical techniques, procee eering. tructured exact thinking an	If applicable, w	nms as a prend	equisite aatics as	nination achi	g problem e skills of	ns in
red learning outcomes: ematical techniques, proce- eering. tructured exact thinking an	edures and algorith	nms as a pren	equisite natics as	for solving	g problem e skills of	ıs in
red learning outcomes: ematical techniques, proce eering. tructured exact thinking an	dures and algorith	nms as a prer	equisite hatics as	for solving	g problem e skills of	ns in
ematical techniques, proce eering. tructured exact thinking an	dures and algorith	nms as a pren	equisite natics as	for solving	g problem e skills of	ns in
ith applications in geometry ifferential equations (introd applications in geometry an and statistics	y and technology duction) nd technology	(continued)				
e (in mandatory hours - LVS)) Workload (i	in hours)				
2 LVS	5 Course atte	, ndance time	Home	study		
2 LVS	6 Lecture	60 h	Course	e accompa	anying	
-	Exercise		and ex	am prepa	ration	60 h
-	Other					
	5 Total workl	oad				120 h
e (ii	n mandatory hours - LVS 2 LVS 2 LVS - - - 4 LVS	n mandatory hours - LVS) Workload (i 2 LVS Course atte 2 LVS Lecture - Exercise - Other 4 LVS Total workl	n mandatory hours - LVS) Workload (in hours) 2 LVS Course attendance time 2 LVS Lecture 60 h - Exercise - Other 4 LVS Total workload	n mandatory hours - LVS) Workload (in hours) 2 LVS Course attendance time Home 2 LVS Lecture 60 h Course - Exercise and ex - Other 4 LVS Total workload	n mandatory hours - LVS) Workload (in hours) 2 LVS Course attendance time Home study 2 LVS Lecture 60 h Course accompa - Exercise and exam prepa - Other 4 LVS Total workload	n mandatory hours - LVS) Workload (in hours) 2 LVS Course attendance time Home study 2 LVS Lecture 60 h Course accompanying - Exercise and exam preparation - Other 4 LVS Total workload

Allocation to course of study	Module name		Course code	Internal	Last updated		
Bachelor of Civil Engineering Project in St		ructural civil	BB 3-1		21.06.2021		
Study semester Offered in 3rd semester WS	engineering		Credit points 6 CP		Semester week hours 4 SWS		
Allocation to study specialization All	Responsible for module Prof. DrIng. Martin Klaus		Type of teaching, group size, if applicable Project work with supervision in groups				
Can also be credited to study program		Language of instruction German					
Requirements according to examination regulations		Recommended prerequisites Statics 1 (BB 1-2); Statics 2 (BB 2-4); parallel: Solid construction 1,					
		Brickwork construc	tion				
Study/examination achievements/ examinati	on types	If applicable, weighting of the study/examination achievements					
Project work with colloquium							
-							

Module objectives/desired learning outcomes:

Whereas in other modules individual building components are usually considered independently of each other, in this module a simple complete building is analyzed.

The students are familiar with the load assumptions for buildings in structural engineering and can set up a structured static calculation for a structurally simple building.

Students understand load transfer in a simple building. They are able to develop the static system for individual components and calculate it, taking into account the boundary conditions. They are able to independently create simple position plans and reinforcement drawings based on their calculation results.

Within a project group, they develop their own team, conflict, facilitation and leadership skills. They are able to conduct simple literature research and, to a lesser extent, to expand their knowledge independently.

Contents:

- Meetings in project teams
- Drawings in structural civil engineering
- Planning process in building construction
- Structure of static calculations
- Load assumptions in building construction
- Breaking down a complete building into its parts
- Basic principles of static-constructive drafting, including pre-dimensioning of simple building parts
- Finding load-bearing systems, including best choice of building materials (concrete construction/masonry construction)
 Basic principles of building bracing
- Thoughts on economic efficiency
- Position plans/reinforcement drawings

Course attendance time (in mandatory hours - LVS)		Workload (in hours)						
Prof. Dr. Martin Klaus	4 LVS	Course attend	ance time	Home study				
N.N.	2 LVS	Lecture	15 h	Course accompanying				
lannis Kramer, B.Eng.	2 LVS	Exercise	45 h	and exam preparation	120 h			
	-	Other						
Total classroom time	8 LVS	Total workloa		180 h				
Optional extra								
Literature								
is listed in Stud.IP								

Allocation to cours	e of study	Module name	e name Course code Internal Last updated					
Bachelor of Civ	vil Engineering	Traffic a	nd water	BB	3-2		01.09.2018	
Study semester 3rd + 4th semester	Offered in WS + SS	engin	eering	Credit p 6 CP	ooints		Semester week hours 6 SWS	
Allocation to study	specialization	Responsible for modu Prof. DrIng. Axe	le I Stödter	Type of Lectu	teaching re	, group size,	if applicable	
Can also be credite	d to study program			Langua	ge of inst	ruction		
Requirements acco	ording to examination rep	gulations	Recommended p	rerequisites				
Study/examination Written exami	achievements/ examina nation (K2)	ation types	If applicable, weig Traffic engine Water engine	ghting of the steering (50%) eering (50%)	tudy/exar	mination ach	ievements –	
 Basic knowle Knowledge o Skills in the p concepts Knowledge o Ability to dev Basic knowle Basic underst Knowledge o 	dge of urban planni f the theoretical dev resentation and and f the integrative stru- elop the design of t dge of the developr canding of viewpoin f the basic elements	ng contexts velopment of traffic of alysis of basic urban p ucture of traffic plann he road space nent of authoritative ts on water manager s of hydraulic enginee	concepts blanning and tra ning principles in hy nent planning ering	íffic draulic engi	neering	7		
In the winter s - Urban and tra - Planning prin - Urban and tra - Current cond In the summer - History of wa - River engines - Applications - Hydrometry	emester: affic history, basic co ciples, organization affic models, basic p ition survey, plannin semester: ter engineering and ering and river struc in hydraulics	oncepts and planning al forms and regulati principles of draft and ng and design of traff I water management tures	g law ons I design fic types					
Course attenda	ance time (in manda	atory hours - LVS)	Workload (in	hours)				
Prof. Dr. A. Stö	odter	3 LVS	Course attend	, lance time	Home	study		
DiplIng. Anja	Markwart	3 LVS	Lecture	90 h	Course	e accompa	anying	
		-	Exercise		ande	kam prepa		
Total classroor	n time	6 LVS	Total workloa	ı Id			180 h	
Optional extra Literature is listed in Stu	d.IP							

Allocation to cours	se of study	Module name		Course code	Internal	Last updated
Bachelor of Ci	vil Engineering			BB 3-3		30.07.2021
Study semester 3rd + 4th	Offered in WS + SS	_ Urban wate	r management	Credit points 6 CP		Semester week hours 6 SWS
Allocation to study All Can also be credite	<i>i</i> specialization ed to study program	Responsible for mo	^{dule} ünther Bahre	Type of teaching Lecture with Language of inst	, group size, exercises ruction	if applicable
-			1	German		
Requirements acco	ording to examination re	egulations	Recommended prereq	uisites etion of modul	e BB 1-5	
Study/examination	n achievements/ examir	ation types	If applicable, weighting	g of the study/example	nination ach	nievements
Written exam	ination (K2)	-71				
_	()					
 Getting to ki Expansion of Learning abo Development water and w Recognition development 	now parameters for f basic scientific kno but procedural basic at of dimensioning k astewater treatme and assessment of t of target-orientec	r stress assessment owledge for use in u cs of treatment tech bases and applicatio nt areas of application I process chains	rban water managem inology n of dimensioning tec and application limits	ent hniques for use s of the treatm	e in drinki ent proce	ng sses used,
Contents:						
Part I (in the w • Drainage sys	vinter semester) stems					

- Precipitation/flocculation, filtration, bacterial count reduction
- Mechanical processes (rake, grit trap, primary

treatment) Part II (in the summer semester)

- Processes for biological / chemical wastewater treatment (incl. elimination of nitrogen and phosphorus)
- Process for the treatment of residual materials produced in a sewage treatment plant, sludge treatment in particular
- Dimensioning of the above mentioned processes and procedural steps

Course attendance time (in mandatory hour	s - LVS)	Workload (in hours)						
Prof. Dr. G. Bahre	6 LVS	Course attend	ance time	Home study				
	-	Lecture	85 h	Course accompanying				
	-	Exercise	5 h	and exam preparation	90 h			
	-	Other						
Total classroom time	6 LVS	Total workloa	180 h					
Optional extra								
Exercise units, tutorial, practical lab training								
Literature								
is listed in Stud.IP								

Allocation to course	e of study	Module name		Course	code	Internal	Last updated	
Bachelor of Civ	il Engineering	Technical	mechanics.	BB	3-4		31.05.2021	
Study semester	Offered in	Static 3. 9	Structural	Credit p	ooints		Semester weel	k hours
3rd semester	WS	engine	ering 3	3 CP			3 SWS	
Allocation to study	specialization	Responsible for modul	e e	Type of	teaching	, group size,	if applicable	
All		Prof. DrIng. Mic	hael Hansen	Lectu	re with	integrate	d exercises	
- Can also be credited	d to study program			Germ	ge of inst I an	ruction		
Requirements acco	rding to examination reg	ulations	Recommended pr	erequisites				
			BB 1-4, BB 2-4				· · · · · · · · · · · ·	
Written examination	achievements/ examinat	tion types	if applicable, weig	nting of the s	tudy/exar	nination ach	levements	
-								
Module objectiv	ves/desired learning	g outcomes:	1					
		, outcomeon						
Students are al	ple to predict the de	formation behavior	of structures an	d determin	e defor	mation qu	antities corre	ectly in
terms of quality	v. They are able to d	letermine the intern	al forces in stati	cally indete	rminat	e beam st	ructures as a	result
of load and cor	straint actions. In a	ddition they are abl	e to assess the i	nfluence of	f deforn	nations or	the load-bea	aring
behavior and h	ave basic knowledge	e in the analysis of th	e structural hel	navior in th	e case o	of locally y	ariable action	ns
					c case c			15.
Contents:								
- Kinematics								
- Individual def	ormations and bend	ling lines						
- Determination	n of support reaction	ns and internal force	s of statically in	determinat	e plane			
systems with	the force magnitude	e method						
- Basic principle	es of the stability the	eory						
- Basic principle	es of determining inf	fluence lines						
			1					
Course attenda	nce time (in manda	tory hours - LVS)	Workload (in h	nours)				
Prof. DrIng. h	abil. M. Hansen	3 LVS	Course attenda	ance time	Home	study		
		-	Lecture	25 h	Course	e accompa	anying	
		-	Exercise	20 h	and ex	kam prepa	ration 4	5 h
		-	Other					
Total classroom	n time	3 LVS	Total workload	d			9	0 h
Optional extra								
Tutorial								
Literature	110							
is listed in Stu	a.IP							

Allocation to course	e of study	Module name		Course	code	Internal	Last updated
Bachelor of Civ	il Engineering	Basic pri	ncinles of	BB	3-5		01.09.2018
Study semester 3rd semester	Offered in WS	hydra	aulics	Credit p 3 CP	ooints		Semester week hours 2 SWS
Allocation to study	specialization	Responsible for modu Prof. DrIng. Axe	^{le} l Stödter	Type of Lectu	teaching	, group size,	if applicable
Can also be credited	d to study program			Langua Germ	ge of inst I an	ruction	
Requirements acco	rding to examination reg	ulations	Recommended pr	rerequisites			
Study/examination Written examir	achievements/ examina nation (K1)	tion types	If applicable, weig	ghting of the s	tudy/exar	nination ach	ievements
 Aodule objective Students acquire Students acquire They and channe They are able and flow hydra 	ves/desired learning ire basic knowledge lel hydraulics). to solve basic prob ulics.	g outcomes: e of hydromechanics lems in the fields of H	i (hydrostatics w	vith buoyan drodynamic	cy, grou cs with լ	indwater Dipe hydra	hydraulics, aulics,
ontents:							
- Groundwater - Water movem - Water movem	nent in pipes nent in channels at n	weirs and constrictio	ns, outflow fror	n openings			
Course attenda	nce time (in manda	tory hours - LVS)	Workload (in	hours)			
Prof. Dr. A. Stö	dter	2 LVS	Course attend	lance time	Home	study	
			Lecture Exercise	30 h	Course and ex	e accompa kam prepa	anying aration 60 h
Total classroom	time	- 21//5	Other Total workloa	d			90 h
Optional extra	-						
Literature is listed in Stud	d.IP						

Allocation to course	e of study	Module name	name Course code Internal Last updated						
Bachelor of Civ	il Engineering	Geotec	hnics 1	BB	3-6		01.11.2018		
Study semester 3rd semester	Offered in WS			Credit p 6 CP	oints		Semester week hours 6 SWS	S	
Allocation to study	specialization	Responsible for modul	le	Type of	teaching,	group size,	if applicable		
All	d to study program	Prof. DrIng. Geo	org Maybaum	Lectur	re with	exercises			
-	a to study program			Germ	an	uction			
Requirements acco	rding to examination reg	gulations	Recommended p	rerequisites					
Study/avamination	achiovomonts/ovamina	tion types	If applicable, wei	abting of the st	udv/ovan	nination ach	iovomonts		
Written examin	nation (K2)	uon types	n applicable, wei	ginning of the st	uuy/exan		levements		
Module objectiv	ves/desired learning	g outcomes:							
 Basic knowled mechanical pr Ability to estir Ability to desi Knowledge of Knowledge or 	lge of soil investigat operties nate the load-bearing n shallow foundati retaining structures how to build excav	tion and field and lab ng behavior of soils a ions s (underpinning, ban vation pits	oratory determ and the effect o k protection, re	hination of in f the subsoil etaining walls	nportan in relat s, etc.)	it soil	uctures		
Contents:									
Formation of se - Classification - Relevant soil (- Flat and area - Introduction t - Method of sec - Procedure for	bils and methods of of soils according to mechanical properti foundations, their lo to the earth pressur curing the excavation calculating stress a	soil investigation different categories ies and methods for oad-bearing behavior te theory, load deterr on pit and its calculat and settlement	, load-bearing I their determina r and calculatio nination (water ion	behavior of t ation n r and earth p	the four	ndation sc	il		
Course attenda	nce time (in manda	atory hours - LVS)	Workload (in	hours)					
Prof. Dr. G. Ma	ybaum	6 LVS	Course attend	dance time	Home	study			
		-	Lecture	60 h	Course	accompa	inying		
		-	Exercise	30 h	and ex	am prepa	ration 90 h		
		-	Other						
Total classroom	n time	6 LVS	Total workloa	ad			180 h		
Literature is listed in Stud	d.IP								

	e of study	Module name		Course of	code	Internal	Last update	ed
Bachelor of Civ	vil Engineering	Solid con	struction 1.	BB	3-7		31.05.20	021
Study semester 3rd semester	Offered in WS	Brickwor	k/masonry ruction	Credit po 6 CP	oints		Semester v 6 SWS	week hours
Allocation to study All	specialization	Responsible for mode Prof. DrIng. Mi	^{ule} chael Hansen	Type of Lectur	teaching, re with	, group size, exercise	if applicable	
Can also be credite	d to study program			Languag Germa	e of instr an	ruction		
Requirements acco	rding to examination re	gulations	Recommended pr BB 1-4, BB 2-4	rerequisites 4, BB 1-2, BE	3 2-2			
Study/examination Written exami	achievements/ examin nation (K2)	ation types	If applicable, weig	ghting of the st	udy/exan	nination achi	ievements	
reinforcement construction a arrange the de What's more, t design point of	on the basis of this nd can also calculat termined reinforce hey know how to c	s. In addition, they ur te the reinforcement ment and are able to design masonry struc	nderstand the loa resulting from s o sketch it. tures and how to	ad-bearing n hear force lo o execute th	nechan oading. em cor	isms in rei Students rectly fror	inforced c know how	oncrete v to ural and
Contents:								
 Reinforced cd Introduction Basic principl Dimensioning Design rules a 	oncrete construction to the safety conce es of bending and s and construction of and basics of reinfo ckwork: onry structures und	on: pt and to the basics of thear force design of of standard structura rcement design er normal force, ben	of reinforced cor reinforced conci Il elements (bear ding and shear le	ncrete const rete compor ns, uniaxiall oads	ruction nents y spann	ned ceiling	s,)	
 Masonry/brid Design of maso 								
 Masonry/brid Design of maso Course attenda 	ince time (in mand	atory hours - LVS)	Workload (in	hours)				
 Masonry/brid Design of maso Course attenda Prof. DrIng. h 	nce time (in mand abil. M. Hansen	atory hours - LVS) 6 LVS	Workload (in Course attend	hours) ance time	Home	study		1
 Masonry/brid Design of maso Course attenda Prof. DrIng. h 	a nce time (in mand abil. M. Hansen	atory hours - LVS) 6 LVS - -	Workload (in Course attend Lecture Exercise	hours) ance time 45 h 45 h	Home Course and ex	study e accompa am prepa	inying ration	90 h
 Masonry/brid Design of maso Course attenda Prof. DrIng. h 	ince time (in mand abil. M. Hansen	atory hours - LVS) 6 LVS - - - -	Workload (in Course attend Lecture Exercise Other	hours) ance time 45 h 45 h	Home Course and ex	study e accompa cam prepa	inying ration	90 h
Masonry/brid Design of maso Course attenda Prof. DrIng. h Total classroon	nce time (in mand abil. M. Hansen n time	atory hours - LVS) 6 LVS - - - - 6 LVS	Workload (inCourse attendLectureExerciseOtherTotal workload	hours) ance time 45 h 45 h d	Home Course and ex	study e accompa am prepa	inying ration	90 h 180 h

Allocation to course	e of study	Module name		Course	code	Internal	Last updated	
Bachelor of Civ	il Engineering	Infrastruct	ure project	BB	8 4-1		04.08.2018	
Study semester 4th semester	Offered in SS			Credit p 6 CP	ooints		Semester week hou 4 SWS	urs
Allocation to study	specialization	Responsible for modul	e	Type of Proie	teaching, ct work	group size, with supe	if applicable ervision in groups	s
Can also be credite	d to study program			Langua	ge of instr	uction		
Requirements acco	rding to examination regu	lations	Recommended pre	requisites				
			Participation in	n module I	3B 3-2 Ti	raffic and	water engineeri	ng
Study/examination Project work w	achievements/ examinati rith colloquium	on types	lf applicable, weigh	iting of the s	tudy/exam	nination ach	ievements	
-	-							
Module objectiv	ves/desired learning	outcomes:						
 Ability to define Ability to mare Ability to dete Ability to engandering for the Ability to draft Ability to draft 	ne a goal and the stra hage groups and pres ermine the basis and age in technical discu e development of urb t concepts in text an	ategic planning proc ent results develop variants ission, evaluation of ban and transportat d drawings	planning alterna	atives, and propriate t	decisio o the sit	n- e		
- Target frame	vork and failure anal	ysis						
- Inventory tak	ng ral measures							
- Site-specific n	neasures with impact	t analysis						
- Public relation	ns concepts							
- Development	of computer-aided p	blanning and design	documents					
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	ours)				
N.N.		4 LVS	Course attenda	nce time	Home	study	. 1	
DiplIng. Anja	Markwart	2 LVS	Lecture	30 h	Course	accompa	nying	h
		-	Other	30 N		ani piepa		•
Total classroom	n time	6 LVS	Total workload				180	h
Optional extra		I	1					
Literature								

Allocation to course	of study	Module name		Course c	ode	Internal	Last upda	ted
Bachelor of Civ	il Engineering	Building	nerations 1	BB	4-4		25.01.2	019
Study semester 4th semester	Offered in SS			Credit po 6 CP	oints		Semester 4 SWS	week hours
Allocation to study	specialization	Responsible for mod	ule	Type of t	teaching, g	group size,	if applicabl	9
- Can also be credited	to study program	Prof. DrIng. Ma	ario Hanusrichter	Lectur	e of instru	iction		
Requirements acco	ding to examination re	gulations	Recommended pre	erequisites				
Study/examination Written examin	achievements/ examina nation (K2)	ation types	If applicable, weig	hting of the stu	udy/exami	ination ach	ievements	
Basic features of The course is d Students acqui management. ⁻ construction ar starting point f Construction in Students gain k costs of constru- management a in a practical m	of the construction esigned to provide re basic knowledge The market particip id real estate mark for an orientation ir dustry 1: nowledge of the es action services. Stu s well as the function anner in the form of	market: an overview of the solution of the dimension of pants are presented is et is made clear. In a a subsequent speci ssential aspects of the dents are to understo oning of a construct of exercises.	special features o f the market, its e in their various fu addition, the cour alization and/or f ne construction in tand selected asp ion company. The	f the constru- conomic sig inctions; how rse is intende Waster's mo dustry. The ects of cons e knowledge	uction (a gnificance w these ed to pr odule, if focus h struction e acquire	and real te and th function rovide stu applicabl ere is on contrac ed in the	estate) m e forms c udents wi le. determir t law and lectures i	arket. If project t for the th a crucia ning the quality is applied
Contents: Basic features of - The national, - Models of pro - Cost elements	of the construction European and inter ject execution; per of construction; fi	market: mational constructic formance profiles of nancing of construct	on market; the rol f typical engineer tion and infrastru	les of constr and archite cture projec	ruction s ects' acti cts (PPP)	stakeholc vities)	lers	
Construction in	dustry 1 (lecture): es of construction	production; structur	al and process or ng (VOB/A, HVA B	ganization 3-StB, VHB);	wages a	and salar	ies; work	ing time
 Special featur Basic principle values Calculation m the constructi Basic principle in the construct Calculating lal Determining 	ethodology; detern on contract and Ge s of quality manag tion industry I (exe por and equipment unit prices	nination of surcharg eneral Contractual Co ement rcise): costs	es; allocation pro onditions for the	cedure; det Execution o	erminat f Constr	ion of pr uction W	ices (cost /ork (VOE	ing) 8/B)
 Special featur Basic principle values Calculation m the constructi Basic principle in the construct Calculating lal Determining u Course attenda 	ethodology; detern on contract and Ge is of quality manag tion industry I (exe por and equipment unit prices nce time (in manda	nination of surcharg eneral Contractual Co ement rcise): costs atory hours - LVS)	es; allocation pro onditions for the Workload (in h	ecedure; det Execution o	erminat f Constr	ion of pr uction W	ices (cost /ork (VOE	ing) 3/B)
 Special featur Basic principle values Calculation m the constructi Basic principle in the construct Calculating lal Determining u Course attenda Prof. Dr. M. Ha 	ethodology; detern on contract and Ge is of quality manag tion industry I (exe por and equipment init prices nce time (in manda nusrichter	nination of surcharg eneral Contractual Co ement rcise): costs atory hours - LVS) 4 LVS	es; allocation pro onditions for the Workload (in h Course attenda	cedure; det Execution o nours)	erminat f Constr Home s	ion of pr uction W	ices (cost /ork (VOE	ing) 3/B)
 Special featur Basic principle values Calculation m the constructi Basic principle in the construct Calculating lal Determining u Course attenda Prof. Dr. M. Ha 	ethodology; detern on contract and Ge s of quality manag tion industry I (exer por and equipment unit prices nce time (in manda nusrichter	nination of surcharg eneral Contractual Co ement rcise): costs atory hours - LVS) 4 LVS -	es; allocation pro onditions for the Workload (in h Course attenda Lecture	nours)	erminat f Constr Home s Course	ion of pr uction W tudy accompa	ices (cost /ork (VOE	ing) 3/B)
 Special featur Basic principle values Calculation m the constructi Basic principle in the construct Calculating lal Determining u Course attenda Prof. Dr. M. Ha	ethodology; detern on contract and Ge to of quality manag tion industry I (exe por and equipment unit prices nce time (in manda nusrichter	nination of surcharg eneral Contractual Co ement rcise): costs atory hours - LVS) 4 LVS - -	es; allocation pro onditions for the Workload (in h Course attenda Lecture Exercise	nours) ance time 10 h	erminat f Constr Home s Course and exa	ion of pr ruction W tudy accompa am prepa	ices (cost /ork (VOE anying aration	ing) 3/B) 120 h
 Special featur Basic principle values Calculation m the constructi Basic principle in the construct Calculating lal Determining u Course attenda Prof. Dr. M. Ha 	ethodology; detern on contract and Ge s of quality manag tion industry I (exe por and equipment unit prices nce time (in manda nusrichter	nination of surcharg eneral Contractual Co ement rcise): costs atory hours - LVS) 4 LVS - - - -	es; allocation pro onditions for the Workload (in h Course attenda Lecture Exercise Other	nours) 50 h 10 h	erminat f Constr Home s Course and exa	ion of pr ruction W tudy accompa im prepa	ices (cost /ork (VOE anying anying	ing) 8/B) 120 h

Literature is listed in Stud.IP

	e of study	Module name		Course	code	Internal	Last upda	ted
Bachelor of Civ	/il Engineering	Basic princi	ples of steel	BB	8 4-5		01.09.2	018
Study semester 4th semester	Offered in SS	and wood	engineering	Credit p 6 CP	ooints		Semester 6 SWS	week hours
Allocation to study	specialization	Responsible for modu	ile kor Krämor	Type of	teaching	group size,	if applicabl	e
Can also be credite	d to study program	Prof. Dring. voi	Ker Kraffier	Langua	ge of inst	ruction	u exerciso	
- Requirements acco	ording to examination rea	gulations	Recommended prere	Germ	ian			
		Balaciono	BB 1-2, BB 1-4,	BB 2-4				
Study/examination	achievements/ examination	ation types	If applicable, weighti	ing of the s	tudy/exar	nination ach	ievements	
Written exami	nation (K2)		50% Wood engi	neering -	· 50% St	eel engine	eering	
Module objection Students (Stee • know the mo	ves/desired learnin l engineering) ost important mater	ial properties of stee	el.	ruction-s	necific	afety		
 are able to a are able to a are proficient and compres are able to de 	pply the basic European's pply the basic Europ t in the standard-co sion members and esign and dimensio	pean dimensioning st ompliant verification of of bending girders in n simple structural st	andards in steel const of the structural sa steel structures. ceel connections in	onstruction afety and accorda	service nce with	ability of s	simple ter ds.	nsion
 are able to in in accordance 	dependently desigr e with standards.	n components of sim	ple timber structu	res in bui	lding co	nstructio	n and dim	nension ther
 learn to conr are enabled t and to transf 	nect the component to apply timber con er these solution co	ts to each other in a f struction-specific sol oncepts independent	force-fit manner us ution concepts for ly to other plannin	sing pin-s simple ti g tasks ir	haped, mber co timber	metallic fa onstructio construc	asteners. In project tion.	S
 learn to conr are enabled t and to transf Contents: Steel engineeri Steel and ste Safety conce Introduction Basic principl Basic principl 	nect the component to apply timber con er these solution co ing: el products, materia pt with regard to st to the European dir les of dimensioning les of dimensioning	ts to each other in a f struction-specific sol- oncepts independent al properties eel structure-specific mensioning standard and design of simple and design of simple	force-fit manner us ution concepts for ly to other plannin safety features is in steel construct e tension and comp bolted and welde	sing pin-s simple ti g tasks ir tion tion pression i d joints	haped, imber co i timber member	metallic fa onstructio construc	asteners. in project tion. as bendir	ng girders
 learn to conr are enabled t and to transf Contents: Steel engineeri Steel and ste Safety conce Introduction Basic principl Basic principl Wood enginee History, built Basic principl supports) Verification corisk of tilting Basic principl Basic principl 	nect the component to apply timber con er these solution co- ing: el products, materia pt with regard to st to the European dir les of dimensioning les of dimensioning ring: objects, wood tech les for the dimensio of the stability of bu	ts to each other in a f struction-specific sol- oncepts independent al properties eel structure-specific mensioning standard and design of simple and design of simple oning of structural con teckling bars and bend oning of pin-shaped fand dimensioning of si	force-fit manner us ution concepts for ly to other plannin e safety features ls in steel construct e tension and comp e bolted and welde mponents made o ling beams made o asteners (e.g. bar o imple load-bearing	sing pin-s simple ti g tasks ir tion pression r d joints f wood a f wood a dowels, n	haped, imber co n timber member nd wood nd wood ails) es made	metallic fa onstructio construct construct s as well d-based m d-based n e of wood	asteners. in project tion. as bendir naterials (naterials	ng girders e.g. beams, that are at
 learn to conr are enabled t and to transf Contents: Steel engineeri Steel and ste Safety conce Introduction Basic principl Basic principl Wood enginee History, built Basic principl supports) Verification c risk of tilting Basic principl Basic principl 	nect the component to apply timber con er these solution co- ing: el products, materia pt with regard to st to the European dia les of dimensioning les of dimensioning ring: objects, wood tech les for the dimension of the stability of bu les for the dimension les for the dimension les for the dimension les for the dimension les for the dimension	ts to each other in a f struction-specific sol- oncepts independent al properties eel structure-specific mensioning standard and design of simple and design of simple oning of structural col- ockling bars and bend oning of pin-shaped fand dimensioning of si	force-fit manner us ution concepts for ly to other plannin safety features is in steel construct e tension and comp bolted and welde mponents made o ling beams made o asteners (e.g. bar o imple load-bearing	sing pin-s simple ti g tasks ir tion bression i d joints f wood a f wood a f wood a f wood a structur	haped, mber co n timber member nd woo ails) es made	metallic fa onstructio construct construct s as well d-based m d-based n e of wood	asteners. in project tion. as bendir naterials (naterials	ng girders e.g. beams, that are at
 learn to conr are enabled t and to transf Contents: Steel engineeri Steel and ste Safety concel Introduction Basic principl Basic principl Wood enginee History, built Basic principl supports) Verification corisk of tilting Basic principl Basic principl 	nect the component to apply timber con er these solution co ing: el products, materia pt with regard to st to the European dir les of dimensioning les of dimensioning ring: objects, wood tech les for the dimensio of the stability of bu les for the dimensio les for the dimensio les for the design ar ance time (in manda 7. Krämer	ts to each other in a f struction-specific sol- oncepts independent al properties eel structure-specific mensioning standard and design of simple and design of simple oning of structural con uckling bars and bend oning of pin-shaped fa nd dimensioning of si atory hours - LVS) 3 LVS	force-fit manner us ution concepts for ly to other plannin e safety features is in steel construct e tension and comp e bolted and welde mponents made of ling beams made of asteners (e.g. bar of imple load-bearing Workload (in ho Course attendan	sing pin-s simple ti g tasks in tion pression i d joints f wood a f wood a dowels, n structur urs) ce time	haped, imber co n timber member nd wood ails) es made Home	metallic fa onstructio construct rs as well d-based m d-based n e of wood study	asteners. in project tion. as bendir naterials (naterials	s ng girders e.g. beams, that are at
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Literature

is listed in Stud.IP

Allocation to course	e of study	Module name		Course	code	Internal	Last updated	
Bachelor of Civ	il Engineering	Solid cons	truction 2	BB	4-6		31.05.2021	
Study semester 4th semester	Offered in SS			Credit p 6 CP	points	1	Semester week 4 SWS	k hours
Allocation to study All	specialization	Responsible for modul Prof. DrIng. Mic	e hael Hansen	Type of Lectu	teaching, re with	group size, integrate	if applicable d exercises	
Can also be credited	d to study program			Langua Germ	ge of instr I an	uction		
Requirements acco	rding to examination regu	lations	Recommended pre BB 3-7	requisites				
Study/examination Written examin	achievements/ examinati nation (K2)	on types	If applicable, weigh	iting of the s	tudy/exam	nination ach	ievements	
Module objectiv	ves/desired learning	outcomes:	l					
Basic principles building constr Students are al components. T and ensure this pressure memb reinforced cond	of calculation and si uction ble to design and reir hey are able to deter by appropriate rein bers that are at risk o crete members.	tructurally correct e nforce beam structu mine the internal fo forcement design. In f stability. Students	xecution of the r res, floor slabs w prces of shell stru n addition, they a will also have a l	nain reinfo vith differe uctures, ev are also ab basic knov	ent supp valuate t ple to siz vledge o	ncrete co ort condii he punch e, dimens f crack wi	mponents of ions and four ing shear resi ion and desig dth limitatior	usual ndation istance gn n of
 Multi-axis ten Point-support Foundation co Slim supports Verification of Special featur Extended con 	sioned, line-bearing ed panels omponents, especiall serviceability limit s es such as joists in th struction and reinfor	panels y centrically and eco tate design (crack w le same floor, slabs cement rules for the	centrically loaded vidth limitation, p under special loa e components co	d foundati part 1) nds, slabs v overed	ons with ope	nings, sta	irs	
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	ours)				
Prof. Dr Ing h	abil. M. Hansen	41VS	Course attenda	nce time	Home	studv		
		-	Lecture	30 h	Course	accompa	inying	
		-	Exercise	30 h	and ex	am prepa	ration 12	20 h
		-	Other					
Total classroom	time	4 LVS	Total workload				18	80 h
Optional extra								
is listed in Stu	I.P							

Allocation to course	e of study	Module name		Course code	Internal	Last updated	
Bachelor of Civ	Bachelor of Civil Engineering		Project in Structural civil			21.06.2021	
Study semester	Offered in	ongin	ooring	Credit points	Semester week hours		
5th semester	WS	engine	6 CP		4 SWS		
Allocation to study	specialization	Responsible for modul	e	Type of teaching,	group size,	if applicable	
Structural civil er	ngineering	Prof. DrIng. Mar	tin Klaus	Project work	with supe	ervision in groups	
Can also be credited	to study program	-		Language of instruction			
-				German			
Requirements accor	ding to examination regu	llations	Recommended prerequisites				
			Project in 3rd sen	nester (BB 3-1);	BB 3-4; B	B 4-6;BB 4-5;BBV-	
			33;BBV-37				
Study/examination	achievements/ examinati	on types	If applicable, weighting	g of the study/exam	nination ach	ievements	
Project work w	ith colloquium						
-							

Module objectives/desired learning outcomes:

Students are trained in the design and calculation of structural frameworks for building construction on the basis of a project task. The main focus is on the independent processing of a structural design with explanation/justification. The application of previously learned expertise from various disciplines (across construction types) is combined within the overall task.

The calculation of the fee for engineering services of the structural engineer in building construction according to HOAI

Students deepen their understanding of load transfer in both vertical and horizontal directions in a building. They are able to develop and calculate different structural solutions for a building based on the usage requirements. They are able to independently create position plans and reinforcement drawings based on their calculation results.

Within a project group, they develop their own team, conflict, facilitation and leadership skills. They are able to conduct literature research and to expand their knowledge independently and then to present their findings.

Contents:

- Meetings in project teams

- Design of a building from a structural point of view in solid and/or steel construction

- Calculation of the fee for the structural engineer according to HOAI
- Static-structural drafting, including pre-dimensioning of simple building parts
- Development of structural variants (concrete construction/masonry construction/steel construction)
- Breakdown of a complete building into components taking into account the vertical and horizontal load transfer
- Creation of a verifiable static calculation
- Simple geotechnical verifications for the foundation components
- More detailed proofs for building bracing
- Preparation of construction drawings in solid and steel construction (ready for execution according to HOAI)

Course attendance time (in mandator	ry hours - LVS)	Workload (i	n hours)		
Prof. Dr. M. Klaus	4 LVS	Course atter	ndance time	Home study	
N.N.	2 LVS	Lecture	15 h	Course accompanying	
lannis Kramer, B.Eng.	2 LVS	Exercise	45 h	and exam preparation	120 h
	-	Other			
Total classroom time	8 LVS	Total workle	bad		180 h
Optional extra	·				
Literature					
is listed in Stud.IP					

Allocation to course	e of study	Module name		Course	code	Internal	Last updated
Bachelor of Civ	il Engineering	Advanced pro	viact in wate	BE	8 5-1		01.09.2018
Study semester	Offered in		Ject III wate	Credit	ooints		Semester week hours
5th semester	WS	engine	eering	6 CP			4 SWS
Allocation to study	specialization	Responsible for modul	e	Type of	teaching,	group size,	if applicable
Can also be credite	d to study program	Prof. DrIng. Gün	ther Bahre	Proje	ct work	with supe	ervision in groups
-	a to study program			Germ	nan	action	
Requirements acco	rding to examination regu	ulations	Recommended prei	requisites			
			Good knowled	ge of CAD			
Study/examination	achievements/ examinat	ion types	If applicable, weight	ting of the s	tudy/exam	ination ach	ievements
Project work w	ith colloquium						
-							
Module objectiv	ves/desired learning	goutcomes:					
• Application	riantad knowladga	of water law					
Application-c	nented knowledge (of water law	oduros				
Moderation	of the process flow	ig and approval proc	euures				
Ability to pre	nare a draft nermit i	inder the water law					
Contents:							
• Water law, ei	mission law, adminis	trative procedures					
 Simulation ga 	me for the preparat	ion of a water law a	pproval procedur	е			
Preparation	of a draft permit for	the reconstruction a	nd extension of a	sewage	reatmer	nt plant w	vith the elements
- Explanatory	report						
- Technical ca	lculations						
- Drawings (si	te plan, floor plans,	sections, hydraulic lo	ongitudinal section	on, P&I flo	w diagra	im) Grou	p work
Regular attend	ance is required as p	part of the weekly pro	oject work.				
Course attenda	nce time (in mandat	tory hours - LVS)	Workload (in ho	ours)			
Prof. Dr. G. Bal	nre	6 LVS	Course attenda	nce time	Home	study	
		-	Lecture	10 h	Course	accompa	anying
		-	Exercise	50 h	and exa	am prepa	ration 120 h
		-	Other				
Total classroom	n time	6 LVS	Total workload				180 h
Optional extra		l	I				I
Project-accom	panying supervision,	, tutorial					
	, , , , ,						
Literature							
is listed in Stu	d.IP						

Allocation to course	e of study	Module name		Course	code	Internal	Last updat	ted
Bachelor of Civ	il Engineering	Building or	nerations 2	BB	5-2		25.01.2	019
Study semester 5th semester	Offered in WS			Credit p 6 CP	ooints		Semester 4 SWS	week hours
Allocation to study	specialization	Responsible for modu	le	Type of	teaching	, group size,	if applicable	5
-	to study program	Prof. Dr. Ing. Mar	io Hanusrichter	Lectu	re, exer	cise		
-	a to study program			Germ	ian	uction		
Requirements acco	rding to examination re	gulations	Recommended pr	erequisites				
Study/examination	achievements/ examina	ation types	If applicable, weig	hting of the st	tudv/exar	nination ach	ievements	
Written examin	nation (K2)				uu yy exur			
Module objectiv	ves/desired learnin	g outcomes:						
Building techno Students gain k process techno for a construct The knowledg Construction la Students are ta	blogy 1: nowledge of the es logy. They are enal ion project and to c e acquired in the le w 1 (Construction o ught the basic prin	essential aspects of wo bled to determine the determine their perfo ctures is applied in a contract law): ciples of constructior	ork preparation, e general facilitie rmance. practical manne n contract law ne	including jo es and mac er in the for ecessary to	ob schei hinery a m of exi unders	duling and and equip ercises. tand the d	d construct ment requ	ction uired on process.
Contents:								
 Work prepara Assessment o Basic principle Equipment ar concrete and n Site equipment Development 	tion; basic principle f the performance es of occupational h ad methods of earth hasonry construction of planning; perform of schedules (using	es of construction me of construction mach nealth and safety nwork and foundation on Building technolog mance determination g different methods)	thods and proce ines; machine-to n construction; l y I (exercise): in earthworks;	esses; gene echnical ba ifting equip formwork o	ral site sics, cap oment; f concrete	organizati bacity plan formwork, e construc	on nning logistics tion	of
Construction La - Conclusion of - Construction - General terms - Warranty acc - Overview of V	aw 1 (fundamentals the construction of contract as VOB or and conditions ording to VOB/B an OB Part C with reg	s of construction cont ontract BGB contract d BGB, liability issues ard to the systematic	ract law): , concerns, obst s of general tech	ruction, ter	rminatic ract con	on ditions		
Course attenda	nce time (in manda	atory hours - LVS)	Workload (in h	nours)				
Prof. Dr. M. Ha	nusrichter	2 LVS	Course attend	ance time	Home	study		
HonProf. A. B technology 1)	iedermann (Buildin	g 2 LVS	Lecture	50 h	Course and ex	e accompa am prepa	anying tration	120 h
		-	Exercise	10 h		1 - 12 -		
			Other					
Total classroom	n time	4 LVS	Total workload	d				180 h
Literature is listed in Stu	d.IP							

Allocation to course	e of study	Module name		Course code	Internal	Last updated			
Bachelor of Civ	il Engineering	Practical tra	aining phase	BB 6-1		01.09.2018			
Study semester	Offered in WS		01	Credit points		Semester week hours			
6th semester	+ SS			30 CP		n/a			
Allocation to study	specialization	Responsible for modu	le	Type of teaching,	group size,	if applicable			
All		Prof. Dr. Ing. Mar	io Hanusrichter	Pre- and post	-seminar,	practical phase			
Can also be credited	d to study program			Language of instru	Language of instruction				
-				German					
Requirements accor	rding to examination regu	lations	Recommended prereq	uisites					
All CP from sen	nesters 1+2, a furthe	r 45 CP from							
semesters 3 to	5								
Study/examination	achievements/ examinati	on types	If applicable, weighting	g of the study/exam	ination ach	ievements			
Seminar paper			15 weeks of pract	tical training (tra	anslates a	as 24 CP), pass / fail			
Student resear	ch paper without col	loquium	StA (report) and s	seminar paper (†	translate	s as 6 CP) will be			
			graded						
Module objectiv	ves/desired learning	outcomes:							
- Application of	previously acquired	knowledge and skil	lls in everyday profe	essional practice	, enginee	ering work			
- Gain compete	ncies in an area that	the student has de	signated for future	employment					
- Working in th	e training center is d	esigned to give stud	lents some orientat	ion for finding a	topic for	their Bachelor's			
thesis									

- Stimulation to link non-specialist content with the student's own training to date
- Development of independent decision-making ability
- Presentation of the professional and social competence acquired during the course of study.

Contents:

Practical phase supervised by the Civil Engineering program of the Faculty of Architecture, Construction and Conservation in a company (training facility) of the construction trade/industry, in an engineering or architectural office, in a professional authority, in a professional association, or comparable

The company/institution must ensure that engineering supervision is possible during the practical phase, i.e. at least 1 engineer must provide supervision in the company / office / in the public authority / in the association (i.e. training facility).

The regulations for the practical phase according to the Praxisphasenordnung (PraxisO) must be observed.

Course attendance time (in mandatory hours	s - LVS)	Workload (in l			
entire teaching staff, per student	0.1 LVS	Course attend	ance time	Home study	
	-	Lecture		Course accompanying	
	-	Exercise		and exam preparation	740 h
	-	Other	10 h		
Total classroom time	0.1 LVS	Total workloa	d		750 h
Optional extra					•

Literature is listed in Stud.IP

Backelor of Civil Engineering Individual profile studies BB 7-1 0.1.0 Study semester Offreed in WS Semester Semester Offreed in WS Semester Offreed in WS Semester Offreed in WS Semester Semester Semester Offreed in WS Semester Offree in WS Semester Semester Semester Semester Offree in WS Semester Semester Semester Semester Offree in WS Semester Semester Secondination to study specialization HaWK plus Language of instruction German German German Semester Semeste			ime	odule nam	Module			dy	of study	ourse of s	tion to co
Study sumstar Code to points G.C.P. 4.SW Allocation to study specialization Responsible for module Type of tasching, group size, if applic All HAWK plus Course-dependent, according, for HAWK plus Course-dependent, according, for HAWK plus Can also be credited to study program Recommended prerequisites If applicable, weighting of the study/examination achievements/ examination types Study.examination achievements/ examination types If applicable, weighting of the study/examination achievements Addership skills Acadership skills Study.examination achievements Study.examination achievements/ examination types If applicable, weighting of the study/examination achievement Course-dependent	die	ofile st	dual pi	ndivid	Indi		ng	ineering	l Enginee	f Civil E	nelor of
Allocation to study specialization Responsible for module Type of teaching, group alse, if applies of the Course-dependent, according, from HAWK plus Can also be credited to study program - <			-				/S	red in WS S	Offered in + SS	er O ter +	semester semeste
Can also be credited to study program Ianguage of Instruction Requirements according to examination regulations Recommended prerequisites Study/examination achievements/ examination types If applicable, weighting of the study/examination achievement Course-dependent - - Module objectives/desired learning outcomes: Areas of competence of the individual Profile Studies (IPS) • • Thinking and acting like an entrepreneur • • Leadership skills • • Octation and individual skills • • Social and societal skills • • Interdisciplinary specialized knowledge • • Language competence • Contents: See the IPS Module Handbook for the current range of courses (https://www.hawk.de/de/hochschule/organisation-und-personen/zentrale-einrichtungen/hawk-plus/individual skills • Interdisciplinary specialized knowledge • • Language time (in mandatory hours - LVS) Workload (in hours) up to 4 LVS Course attendance time (in mandatory hours - LVS) Workload (in hours) up to 4 LVS - Lecture Course accompanying and exam preparation and exam preparation - - Other 60 h -		e	le for modul Dius	sponsible AWK pl	Respon HAW			ization	pecializatio	tudy spec	tion to stu
Requirements according to examination regulations Recommended prerequisities Study/examination achievements/ examination types If applicable, weighting of the study/examination achievement Course-dependent - Module objectives/desired learning outcomes: Areas of competence of the Individual Profile Studies (IPS) • Thinking and acting like an entrepreneur • Leadership skills • Communication and individual skills • Social and societal skills • Octatia skills • Interdisciplinary specialized knowledge • Language competence Contents: See the IPS Module Handbook for the current range of courses (https://www.hawk.de/de/hochschule/organisation-und-personen/zentrale-einrichtungen/hawk-plus/indistudium) Course attendance time (in mandatory hours - LVS) Workload (in hours) up to 4 LVS Course attendance time • Lecture Course accompanying and exam preparation • Lecture Course accompanying and exam preparation • Cotter 60 h						1	gram	ıdy prograr	to study p	edited to	so be crec
Study/examination achievements/ examination types If applicable, weighting of the study/examination achievement Course-dependent - Module objectives/desired learning outcomes: Areas of competence of the Individual Profile Studies (IPS) • Thinking and acting like an entrepreneur • Leadership skills • Communication and individual skills • Social and societal skills • Media skills • Interdisciplinary specialized knowledge • Language competence Contents: See the IPS Module Handbook for the current range of courses (https://www.hawk.de/de/hochschule/organisation-und-personen/zentrale-einrichtungen/hawk-plus/indistudium) Course attendance time (in mandatory hours - LVS) Workload (in hours) up to 4 LVS Course attendance time Home study - Lecture Course accompanying and exam preparation - Other 60 h Total classroom time 4 LVS Total workload	ed pre	Recommen		ns	llations	on regulat	nation re	o examinat	ding to exa	according	rements a
Course-dependent - Module objectives/desired learning outcomes: Areas of competence of the Individual Profile Studies (IPS) • Thinking and acting like an entrepreneur • Leadership skills • Communication and individual skills • Social and societal skills • Media skills • Interdisciplinary specialized knowledge • Language competence Contents: See the IPS Module Handbook for the current range of courses (https://www.hawk.de/de/hochschule/organisation-und-personen/zentrale-einrichtungen/hawk-plus/indi listudium) Course attendance time (in mandatory hours - LVS) Workload (in hours) up to 4 LVS Course attendance time - Lecture Course accompanying and exam preparation - Other 60 h Total classroom time 4 LVS Total workload	weigh	If applicabl		/pes	ion types	amination	/ examin	ements/ ex	ichievemer	ation achi	/examinat
- Module objectives/desired learning outcomes: Areas of competence of the Individual Profile Studies (IPS) • Thinking and acting like an entrepreneur • Leadership skills • Communication and individual skills • Corrents: • Media skills • Interdisciplinary specialized knowledge • Language competence • Language competence • Media skills See the IPS Module Handbook for the current range of courses (https://www.hawk.de/de/hochschule/organisation-und-personen/zentrale-einrichtungen/hawk-plus/indistudium) Contents: See the IPS Module Handbook for the current range of courses (https://www.hawk.de/de/hochschule/organisation-und-personen/zentrale-einrichtungen/hawk-plus/indistudium) Course attendance time (in mandatory hours - LVS) Workload (in hours) up to 4 LVS Course attendance time (nomandatory hours - LVS) up to 4 LVS Course attendance time - Exercise - Other									ent	pendent	rse-dep
Areas of competence of the Individual Profile Studies (IPS) • Thinking and acting like an entrepreneur • Leadership skills • Communication and individual skills • Social and societal skills • Media skills • Interdisciplinary specialized knowledge • Language competence Contents: See the IPS Module Handbook for the current range of courses (https://www.hawk.de/de/hochschule/organisation-und-personen/zentrale-einrichtungen/hawk-plus/intilstudium) Course attendance time (in mandatory hours - LVS) Workload (in hours) up to 4 LVS Course attendance time (or mandatory hours - LVS) up to 4 LVS Course attendance time - Lecture Course accompanying and exam preparation - Other 60 h Total classroom time 4 LVS Total workload					outcon	rning o	loarni	ocirod lo	oc/docir	octivos	ula ahia
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- Lecture Course accompanying and exam preparation - Exercise and exam preparation - Other 60 h Total classroom time 4 LVS Total workload	enda	Course a	/		,					5	o 4 LVS
- Exercise and exam preparation - Other 60 h Total classroom time 4 LVS Total workload Optional extra		Lecture	-	-							
- Other 60 h Total classroom time 4 LVS Total workload Optional extra - -		Exercise	-	-							
Total classroom time 4 LVS Total workload Optional extra		Other	-	-							
Optional extra	kload	Total wo	4 LVS	4				•	time	oom tir	l classro
Literature is listed in Stud.IP									.IP	Stud.IP	ature ted in S

Bachelor of Civ	e of study	Module name		Course	code	Internal	Last updated
Buencier er er	/il Engineering	Module for p	renaration o	f BE	7-3		01.09.2018
Study semester 7th semester	Offered in WS + SS	the fina	al thesis	Credit 6 CP	ooints		Semester week hours
Allocation to study	specialization	Responsible for modu	е	Type of	teaching,	group size,	if applicable
Can also be credite	d to study program	N.N.		Langua	rvisea ex ge of instr	ruction	
-				Germ	an		
Requirements acco	ording to examination re	gulations	Recommended pren	equisites			
Study/examination Student resear	achievements/ examin rch paper without o	ation types colloquium	If applicable, weight	ing of the s	tudy/exan	nination ach	lievements
Module objecti	ves/desired learnii	ng outcomes:					
- Gain knowled - Ability to gras - Development - Presentation	lge and skills in a fi sp and present the of independent de of acquired expert	eld that the student h state of the art in a gi ecision-making ability ise in a given subject a	as designated for ven subject area area	his/her B	achelor	's thesis	
- Prepare and t - Participation possible as ea	est experimental so in seminars on met irly as 2nd semeste	enterature searches (etups, test procedure: hods used in academi r)	s or similar c work and writin	g (partici	pation		
Course attenda	ance time (in mand	atory hours - LVS)	Workload (in bo	ours)			
Course attenda	a nce time (in mand g staff, per student	atory hours - LVS)	Workload (in ho Course attendar	ours) nce time	Home	study	
Course attenda entire teaching	ance time (in mand g staff, per student	atory hours - LVS) 0.2 LVS -	Workload (in ho Course attendar Lecture	ours) nce time	Home	study accompa	anying
Course attenda entire teaching	a nce time (in mand g staff, per student	atory hours - LVS) 0.2 LVS - -	Workload (in ho Course attendar Lecture Exercise	ours) nce time	Home Course and ex	study e accompa am prepa	anying aration 177 h
Course attenda entire teaching	a nce time (in mand g staff, per student	atory hours - LVS) 0.2 LVS - - - -	Workload (in ho Course attendar Lecture Exercise Other	ours) nce time 3 h	Home Course and ex	study accompa am prepa	anying aration 177 h
Course attenda entire teaching Total classroom	ance time (in mand g staff, per student n time	atory hours - LVS) 0.2 LVS - - - - 0.2 LVS	Workload (in hoCourse attendarLectureExerciseOtherTotal workload	ours) nce time 3 h	Home Course and ex	study accompa am prepa	anying aration 177 h 180 h

Bachelor of Civil Engineering Study semester Offered in WS 7th semester + SS Allocation to study specialization R All R Can also be credited to study program R - Requirements according to examination regulation 174 CP from semesters 1 to 6 Study/examination achievements/ examination to the study program - Module objectives/desired learning out - Module objectives/desired learning out • Ability to grasp and present the state • Develop and demonstrate independed • Presentation of the acquired method	Final Bache	elor's thesis Ile Recommended pre If applicable, weigh	BB Credit p 12 CF Type of n/a Langua Germ rrequisites	7-4 points teaching, ge of instr ian	, group size, ruction nination ach	01.09.2018 Semester week hours n/a if applicable
Study semester Offered in WS 7th semester + SS Allocation to study specialization R All R Can also be credited to study program - - Requirements according to examination regulation 174 CP from semesters 1 to 6 Study/examination achievements/ examination to the study for the study of the s	esponsible for modu N.N. ons types	Recommended pre	Credit p 12 CF Type of n/a Langua Germ rrequisites	ge of instr an tudy/exan	, group size, ruction nination ach	Semester week hours n/a if applicable iievements
Allocation to study specialization All Can also be credited to study program - Requirements according to examination regulation 174 CP from semesters 1 to 6 Study/examination achievements/ examination to Final thesis with colloquium - Module objectives/desired learning our • Ability to grasp and present the state • Develop and demonstrate independed • Presentation of the acquired method	esponsible for modu N.N. ons types Itcomes:	Recommended pre	Type of n/a Langua Germ rrequisites	f teaching ge of instr Ian tudy/exan	, group size, ruction nination ach	if applicable ievements
Can also be credited to study program Can also be credited to study program Requirements according to examination regulation T74 CP from semesters 1 to 6 Study/examination achievements/ examination to Final thesis with colloquium Can also be credited to study program Module objectives/desired learning ou Ability to grasp and present the state Develop and demonstrate independe Presentation of the acquired method	N.N. ons types ttcomes:	Recommended pre	n/a Langua Germ requisites	ge of instr Ian tudy/exan	ruction	ievements
- Requirements according to examination regulation 174 CP from semesters 1 to 6 Study/examination achievements/ examination to the semination the semination achievements/ examination to the semination the semination to the semination of the semination of the acquired method Presentation of the acquired method	ons types t tcomes:	Recommended pre	Germ requisites	tudy/exan	nination ach	lievements
Requirements according to examination regulation 174 CP from semesters 1 to 6 Study/examination achievements/ examination to Final thesis with colloquium - Module objectives/desired learning out • Ability to grasp and present the state • Develop and demonstrate independer • Presentation of the acquired method	ons types itcomes:	Recommended pre	requisites	tudy/exan	nination ach	lievements
Study/examination achievements/ examination to Final thesis with colloquium - Module objectives/desired learning ou • Ability to grasp and present the state • Develop and demonstrate independe • Presentation of the acquired method	types Itcomes:	If applicable, weigh	nting of the s	tudy/exan	nination ach	nievements
 Final thesis with colloquium Module objectives/desired learning ou Ability to grasp and present the state Develop and demonstrate independe Presentation of the acquired method 	itcomes:					
 Module objectives/desired learning ou Ability to grasp and present the state Develop and demonstrate independe Presentation of the acquired method 	itcomes:					
 Ability to grasp and present the state Develop and demonstrate independe Presentation of the acquired method 	of the out in a					
• Presentation of total expertise acqui	ent decision-mal dological compet red in a given su	king skills tence bject area				
Contents: For example: Conducting comprehensive literature r Carrying out practical investigations, te own conclusions and/or Performing technical calculations with Developing drafts from a given subject	research with cla est procedures o factual/technica area in the fielc	assification and ex or similar with eva al appropriate pre l of civil engineeri	valuation, luation, di esentation ing	and/or scussion , and/or	n and the	student's
	/ hours - LVS)	Workload (in h	ours)			
Course attendance time (in mandatory		· · · ·		110.00		
Course attendance time (in mandatory First examiner	0.3 LVS	Course attenda	nce time	ноте	study	
Course attendance time (in mandatory First examiner Second examiner	0.3 LVS 0.1 LVS	Course attenda Lecture	nce time	Course	study e accompa	anying
Course attendance time (in mandatory First examiner Second examiner	0.3 LVS 0.1 LVS -	Course attenda Lecture Exercise	nce time	Course and ex	study e accompa am prepa	anying aration 354 h
Course attendance time (in mandatory First examiner Second examiner	0.3 LVS 0.1 LVS - - -	Course attenda Lecture Exercise Other	6	Course and ex	study e accompa am prepa	anying aration 354 h

Allocation to course	e of study	Module name		Course o	code	Internal	Last updated
Bachelor of Civ	il Engineering	Geoteo	hnics 2	BB	V 06		03.12.2018
Study semester 5th semester	Offered in WS			Credit po 6 CP	oints		Semester week hours 4 SWS
Allocation to study	specialization	Responsible for modul	e na Nasshassaa	Type of	teaching,	group size,	if applicable
Can also be credited	d to study program	Prof. DrIng. Geo	rg waydaum	Languag	e of instr	uction	
- Requirements acco	rding to evamination regu	lations	Recommended pro	Germa	an		
Requirements acco		lations	Recommended pro	erequisites			
Study/examination	achievements/ examinati	on types	If applicable, weig	hting of the stu	udy/exam	nination ach	ievements
Written exami	nation (K2)						
-							
Module objectiv	ves/desired learning	outcomes:					
Knowledge							
- about special	soil mechanics labor	atory tests,					
- on the prepar	ation of geotechnica	l expert opinions,					
- on procedure	s for securing excava	tions to maintain w	ater pressure,				
- on water rete	ntion and its calculat	lion,	corrosponding	calculations			
- on methods of	f subsoil improveme	nt.	corresponding	calculations),		
- Assessment o	f the quality and info	ormative value of ex	isting informatio	on sources a	and doc	umentati	on
	. ,		0				
Contractor							
Contents:							
Explanation of	more complex labor	atory tests;					
Communication	n of in-depth knowle	dge on special proce	edures in geotec	chnical			
engineering; ca	the practical proper	ation of expert repo	rviceability verit	ications;			
	the practical prepar		113				
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	nours)			
Prof. Dr. G. Ma	ybaum	4 LVS	Course attenda	ance time	Home	study	
		-	Lecture	50 h	Course	accompa	anying
		-	Exercise	10 h	and ex	am prepa	ration 120 h
		-	Other				
Iotal classroom	i time	4 LVS	fotal workload	a			180 h
optional extra							
Literature							
is listed in Stu	d.IP						

Pachalar of C	e or study	Module name		Course code	Internal	Last updated		
	/il Engineering	Mudbrick / clay	y building	BBV 0	7	03.12.2018		
Study semester 5th semester	Offered in WS			Credit points 6 CP		Semester week hours 4 SWS		
Allocation to study All Can also be credite Bachelor of We	d to study program	Responsible for module Prof. DrIng. Georg N	Лауbaum	Type of teaching, group size, if applicable Seminar Language of instruction German				
Requirements acco	rding to examination reg	gulations Rec	commended prer	equisites				
Study/examination Student resear	achievements/ examina cch paper with collo	ation types If a quium	pplicable, weight	ing of the study/e	examination ach	ievements		
Aodule objecti Students - understand m as a building n - are familiar w - deal with its r state of the a - know about t of production semi-finished - gain valuable	ves/desired learnin nudbrick as a buildir material of the futur with the design optic naterial properties a rt of rehabilitation t he connection to th processes in the m mud products and, experience for qual	ng outcomes: ng material of the past, pr re. ons that mudbrick offers a as well as with traditional echniques within the frar le Lehm e.V. network, wh anufacture of mudbrick b last but not least, the sta lity assurance during thei	resent and, in as a building m l and modern mework of the ich HAWK was building produ ate of the art i r own practica	view of its rep naterial. construction e basic theore s involved in f cts, the crafts n research. al exercises in	naissance in t methods and tical principle ounding in 20 manship invo the laborator	he 21st century, als the es. 208, the problems olved in the use of ry and		
valuable expe	rience on site for te	endering and constructior	n managemen	t tasks.				
valuable expe Contents: - History of mu - Cultural herit - The building meth construction - Design optior - Building impr - Visits to const	dbrick building age and world cultu material and its cha iods such as adobe with compartments is from yesterday, fr ovement technolog truction sites, if app	and construction and heritage racteristics construction, Weller cons i filled with clay/mud etc. or today and for tomorro dicable	n managemen struction, ram w	t tasks.	nstruction, h	alf-timbered		
valuable expe Contents: - History of mu - Cultural herit - The building meth construction - Design optior - Building impr - Visits to const - Visits to const - Cultural herit	dbrick building age and world cultu naterial and its chan nods such as adobe with compartments is from yesterday, fr ovement technolog truction sites, if app	and construction and heritage racteristics construction, Weller cons filled with clay/mud etc. or today and for tomorro fies blicable	n managemen struction, ram w	t tasks. med earth co	nstruction, h	alf-timbered		
valuable expension Contents: - History of mu - Cultural herit - The building meth construction - Design optior - Design optior - Building impr - Visits to cons Course attenda Prof. Dr. G. Ma	dbrick building age and world cultu naterial and its cha nods such as adobe with compartments is from yesterday, fo ovement technolog truction sites, if app	atory hours - LVS)	n managemen struction, ram w orkload (in ho	t tasks. med earth co urs)	nstruction, h	alf-timbered		
valuable expe contents: - History of mu - Cultural herit - The building meth construction - Design optior - Building impr - Visits to const Course attenda Prof. Dr. G. Ma	dbrick building age and world cultu naterial and its chan nods such as adobe with compartments is from yesterday, fr ovement technolog truction sites, if app	atory hours - LVS) Wa	n managemen struction, ram w orkload (in ho urse attendan cture	t tasks. med earth co urs) ice time Hoi 50 h Cou	nstruction, ha	alf-timbered		
valuable expension contents: - History of mu - Cultural herit - The building meth construction - Design option - Building impr - Visits to cons Course attenda Prof. Dr. G. Ma	dbrick building age and world cultu material and its chan nods such as adobe with compartments is from yesterday, fr ovement technolog truction sites, if app	atory hours - LVS) Wo atory hours - LVS) Co - Lee - 2 Lee - 2 Lee	n managemen struction, ram w orkload (in ho urse attendan cture 6 ercise 3	t tasks. med earth co urs) ice time Hoi 50 h Cou 30 h and	nstruction, ha	alf-timbered anying ration 90 h		
valuable expension contents: - History of mu - Cultural herit - The building meth construction - Design optior - Design optior - Building impr - Visits to const Course attenda Prof. Dr. G. Ma	dbrick building age and world cultu material and its cha tods such as adobe with compartments is from yesterday, fr ovement technolog truction sites, if app	atory hours - LVS) Wo atory hours - LVS) Wo - Leo - Leo - Exe - Otl	n managemen struction, ram w orkload (in ho urse attendan cture 6 ercise 3 her	t tasks. med earth co urs) uce time Hou 50 h Cou 30 h and	nstruction, ha	alf-timbered		
valuable expension contents: - History of mu - Cultural herit - The building meth construction - Design optior - Building impr - Visits to const Course attenda Prof. Dr. G. Ma Fotal classroon	Idbrick building age and world cultu material and its chan nods such as adobe with compartments is from yesterday, fo ovement technolog truction sites, if app	atory hours - LVS) Wo atory hours - LVS) Wo - Leo - Leo - Exe - Ott	n managemen struction, ram w orkload (in ho urse attendan cture 6 ercise 3 her 3 her 1 tal workload	t tasks. med earth co urs) ice time Hoi 50 h Cou 30 h and	me study urse accompa	alf-timbered anying ration 90 h 180 h		

Allocation to course	e of study	Module name		Course	code	Internal	Last updated
Bachelor of Civ	il Engineering	Building da	mages and	BB	V 08		15.04.2020
Study semester 5th semester Allocation to study All	Offered in WS specialization	Responsible for modul Prof. DrIng. Iris I	opment e Marquardt	Credit p 6 CP Type of Lectu	ooints teaching, re	group size,	Semester week hours 4 SWS if applicable
Can also be credited	d to study program			Langua Germ	ge of instr I an	uction	
Requirements acco	ding to examination reg	ulations	Recommended pre	requisites			
Study/examination Seminar paper	achievements/ examina	tion types	If applicable, weigh	nting of the st	tudy/exam	nination ach	ievements
Module objectiv	es/desired learning	g outcomes:					
In-depth knowl components ar Knowledge and and structural	edge of the cause, i id structures application of exar damage	recording and analys	is of damage to r rement methods	nasonry, r for buildir	einforce ng mater	d and pro	estressed concrete
In-denth knowl	edge of the renair (of existing building co	mponents				
		of existing building co	mponents				
Contents:							
Basic principles							
Causes of dama	age to structural ele	ments/structures ma	ade of masonry,	natural sto	one as w	ell as reir	forced and
prestressed con	ncrete Inventory an	d damage diagnosis	,,				
Examination ar	d measurement me	ethods for building m	aterials				
and structural of	lamage Redevelopr	ment construction ma	aterials				
Methods for re	pair, restoration						
concrete struct	ures, restoration						
of fire damage							
-							
Course attenda	nce time (in manda	itory hours - LVS)	Workload (in h	ours)			
Prof. DrIng. Ir	is Marquardt	4 LVS	Course attenda	nce time	Home	study	
0		-	Lecture	60 h	Course	, accompa	anying
		-	Exercise		and ex	am prepa	ration 120 h
		-	Other				
Total classroom	time	4 LVS	Total workload				180 h
Optional extra							
Litersture							
Literature							
is listed in Stu	J.IF						

Allocation to course	e of study	Module name		Course o	code	Internal	Last updated
Bachelor of Civ	il Engineering	Higher c	oncrete	BB	V 09		15.04.2020
Study semester 4th semester	Offered in SS	techn	ology	Credit p	oints		Semester week hours 4 SWS
Allocation to study	specialization	Responsible for modul	e	Type of	teaching,	group size,	if applicable
All Can also be credited	d to study program	Prof. DrIng. Iris I	Marquardt	Lectur Languag Germa	re ge of instru an	uction	
Requirements accor	rding to examination regu	ulations	Recommended pre	requisites			
			Basic principle	s of concre	te techr	nology	
Written examination	achievements/ examinat nation (K2)	ion types	If applicable, weigh	iting of the sti	udy/exam	ination ach	ievements
Module objectiv	ves/desired learning	outcomes:					
 Skills for appli Acquisition of monitoring) Recognition o Assessment o Recognize dar 	cation-specific selec in-depth knowledge f concrete-technolog f the influences on t nage potential on co	tion of concretes an e on the professiona gical correlations in t he durability of conc oncrete components	d for specifying a l execution of co the construction crete and derivat and prevent dar	and orderir ncrete stru process ion of appr nage	ng concr ictures (ropriate	ete processir measure	ng, curing, quality
 Concrete raw Fresh and har Specifying and Production an Construction of Monitoring co Concrete for sist concrete for mail Durability of co Damages to co 	materials dened concrete prop d ordering concrete ed delivery of concre execution oncrete at building si opecial applications: assive structures, co concrete oncrete structures a	perties te tes including high-stren; ncrete for hydraulic nd their prevention	gth and ultra-hig structures, fair-f	h-strength aced concr	concret ete	e, self-cc	ompacting concrete,
Course attenda	nce time (in mandat	tory hours - LVS)	Workload (in h	ours)			
Prof. DrIng. Ir	is Marquardt	4 LVS	Course attenda	nce time	Home s	study	
		-	Lecture	60 h	Course	accompa	anying
		-	Exercise		and exa	am prepa	ration 120 h
		-	Other				
Total classroom	ı time	4 LVS	Total workload				180 h
Optional extra							
is listed in Stud	d.IP						

Allocation to course	e of study	Module name		Course	code	Internal	Last update	d
Bachelor of Civ	il Engineering	Special fie	lds of solid	BB	V-33		20.07.20	21
Study semester 5th semester	Offered in WS	constructio	on and FEM	Credit 6 CP	points		Semester w 4 SWS	reek hours
Allocation to study	specialization	Responsible for modul	e tin Klaus	Type of	f teaching,	group size,	if applicable	
Can also be credite	d to study program		LIII KIdUS	Langua	ge of instr	uction		
-	rding to ovamination rog	lations	Pacammandad pro	Germ	nan			
Requirements acco			BB 3-7 (Solid c	onstructio	n 1), BB	4-6 (Solic	l construct	ion: 2)
Study/examination	achievements/ examinati	ion types	If applicable, weigh	nting of the s	tudy/exam	ination ach	ievements	
Written exami	nation (K2)		50% exam and	d 50% stud	ent rese	arch pap	er	
Student resear	cn paper without co	lloquium						
Module objectiv	es/desired learning	outcomes:						
The module is	divided into the subs	sections of special fie	elds of solid cons	struction a	nd the F	inite Elen	nent Metho	od (FEM).
Subsection: So	d construction	design and for the c	limensioning of	special reir	forced	oncrete	componen	ts Thou
are able to har	dle statically indeter	minate bracing syst	ems in building of	constructio	n. Stude	ents are a	ble to calc	ulate slab
structures and	develop, design and	construct simple be	am models corr	ectly. They	have kr	owledge	of the inte	gration of
torsional stress	ses within the frame	work of the shear fo	rce design of bea	am compo	nents m	ade of re	inforced co	oncrete.
Subcestien, FF	N 4							
Students are a	vi ple to calculate simpl	le beam and plate st	tructures using t	he finite el	ement n	nethod a	nd specific:	ally apply
FE programs fr	om engineering prac	tice. They understar	nd how to interp	ret error n	nessages	from the	e software	and
calculation res	ults and convert ther	n into execution pla	ns.		Ū			
Contents:								
Special fields o	f solid construction							
- Design of brac	cing systems in solid	construction (Bracir	ng systems part 1	L)				
- Bar models ar	nd design of disconti	nuity areas (part 1)						
- Torsional stre	sses and design in re	inforced concrete s	tructures					
FEM								
- Historical dev	elopment f the main features c	of the theory of FFM	lusing the exam	nle of a he	am strue	ture		
- Application of	a commercial progr	am from engineerin	g practice for th	e calculatio	on of spa	itial bean	n structure	!S
- Application of	f a commercial progr	am from the engine	ering practice fo	r the calcu	lation of	fsurface	structures	
- Interpretation	and conversion of c	alculation results of	an FEM calculat	ion into a	reinforce	ement pla	an	
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	ours)				
Prof. DrIng. N	1artin Klaus	2 LVS	Course attenda	ance time	Home	studv		
Prof. DrIng. h	abil. Michael Hansen	1 2 LVS	Lecture	45 h	Course	accompa	anying	
		-	Exercise	15 h	and ex	am prepa	ration	120 h
		-	Other					
Total classroon	n time	4 LVS	Total workload	k				180 h
Optional extra								
Literature								
is listed in Stu	d.IP							

	e of study	Module name		Course	code	Internal	Last updat	ted
Bachelor of Civ	il Engineering	Prestressed c	oncrete and	d BB'	V-34		20.07.2	021
itudy semester 5th semester	Offered in WS	prefabricated	constructio	Credit p	Credit points Semes 6 CP 4 SW		Semester 4 SWS	week hours
		1						
Allocation to study Structural civil e	specialization ngineering	Responsible for module	in Klaus	Type of	teaching, re and e	group size,	if applicable	2
Can also be credite	d to study program		in Ridus	Languag	ge of instr	uction		
- lequirements acco	rding to examination r	egulations	Recommended prei	requisites	an			
			Solid construct	ion 1 (BB 3	3-6) und	Solid cor	nstruction	: 2 (BB 4-
Study/examination Written exami -	achievements/ examir nation (K2)	nation types	If applicable, weigh	ting of the st	udy/exam	nination ach	lievements	
Iodule obiecti	es/desired learni	ng outcomes:						
		0						
The module is	divided into two si	ubsections, prestressed	concrete constr	ruction and	d precas	st constru	iction.	
Prestressed co	ncrete constructio	n:						
Compared to r	einforced concrete	e structures, the design	of prestressed of	concrete st	tructure	s require	s increase	d effort
planning and c	alculation. The stu	dents acquire basic kno	wledge for the o	calculatior	n of stat	ically dete	erminate	
prestressed co	ncrete structures.	They are able to unders	stand and calcul	ate simple	e prestre	essed stru	ictures.	
Profabricatod	onstruction							
The design co	onstruction and cal	sulation of precast struc	tures differs fro	m the nro	cedure	for concr	ete struct	ures on
Incation Stude	nts learn about th		cures uniers no	in the pro	ceuure			ures on
		e planning process and	the special feat	ures of the	e calcula	ation and	productio	on of
prefabricated	tructures. They ar	e planning process and e able to understand th	the special feat	ures of the ecast desig	e calcula gn and o	ation and	production and calc	on of ulate a
prefabricated s	st elements in bu	e planning process and e able to understand th ilding construction.	the special feat e specifics in pro-	ures of the ecast desig	e calcula gn and o	ation and can design	production and calc	on of ulate a
prefabricated s variety of prec	st elements in bu	e planning process and e able to understand th ilding construction.	the special feat le specifics in pr	ures of the ecast desi	e calcula gn and c	ation and can desigr	production and calc	on of ulate a
prefabricated s variety of prec	st elements in bu	e planning process and e able to understand th ilding construction.	the special feat	ures of the ecast desi	e calcula gn and c	ation and can desigr	productic n and calc	on of ulate a
prefabricated s variety of prec contents: Prestressed co	ast elements in bu	e planning process and e able to understand th ilding construction. n:	the special feat	ures of the ecast desig	e calcula gn and c	ation and can desigr	productic n and calc	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev	ntructures. They ar ast elements in bu ncrete constructio elopment, prestre	e planning process and e able to understand th ilding construction. n: ssing process	the special feat	ures of the ecast desi	e calcula gn and o	ation and	production and calc	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev - Determining	ncrete constructio elopment, prestre he tendon profile	e planning process and e able to understand th ilding construction. n: ssing process	the special feat	ures of the ecast desi	e calcula gn and c	ation and	production and calc	on of ulate a
contents: Prestressed co - Historical dev - Determining to - Determinatio	ncrete constructio elopment, prestre he tendon profile n of internal forces	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin	the special feat e specifics in pro- ed prestressed o	ures of the ecast desig	e calcula gn and c	ation and can design	production and calc	on of ulate a
prefabricated s variety of prec ontents: Prestressed co - Historical dev - Determining f - Determinatio prestressing l	hts learn about the structures. They ar ast elements in bu hcrete constructio elopment, prestre he tendon profile n of internal forces osses	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin	the special feat le specifics in pro- ed prestressed o	ures of the ecast desi	e calcula gn and d	ation and can design	production and calc	on of ulate a
prefabricated s variety of prec ontents: Prestressed co - Historical dev - Determining f - Determinatio prestressing l - Dimensioning	ncrete constructio elopment, prestre he tendon profile n of internal force g prestressed conc	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin crete parts in the ultima	the special feat le specifics in pro- ed prestressed o te limit states	ures of the ecast desig	e calcula gn and d	ation and can design	production and calc	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev - Determining t - Determinatio prestressing l - Dimensioning - Structural des	ncrete constructio elopment, prestre the tendon profile of internal forces g prestressed conc ign of prestressed	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components	the special feat le specifics in pro- ed prestressed o te limit states	ures of the ecast desig	e calcula gn and d	ation and can design	production and calc	on of ulate a
Contents: Prestressed co - Historical dev - Determining to - Determination prestressing l - Dimensioning - Structural des	hts learn about the structures. They ar ast elements in but hcrete constructio elopment, prestre he tendon profile n of internal force: osses g prestressed conc ign of prestressed	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components	the special feat le specifics in pro- ed prestressed o te limit states	ures of the ecast desi	e calcula gn and d	ation and can design	production and calo	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing l - Dimensioning - Structural des Prefabricated c	tructures. They ar ast elements in but ncrete constructio elopment, prestre he tendon profile n of internal force: osses g prestressed conc ign of prestressed construction:	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultimatic concrete components	the special feat le specifics in pro- ed prestressed o te limit states	ures of the ecast desig	e calcula gn and d	ation and can design	production and calc	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing I - Dimensioning - Structural des Prefabricated co - Historical dev	And the second s	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning	the special feat le specifics in pro- ed prestressed o te limit states g and constructi	ures of the ecast desig concrete c	e calcula gn and d compone	ation and can design	production and calc	on of ulate a
Prestressed co - Historical dev - Determining f - Determining f - Dimensioning - Structural des Prefabricated co - Historical dev - Requirements	Anticipation about the structures. They are ast elements in but increte construction elopment, prestre the tendon profile in of internal forces osses g prestressed conc ign of prestressed construction: elopment, special s for a design suita	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultimat concrete components features of the planning ble for finished parts	the special feat le specifics in pro- ed prestressed o te limit states g and constructi	ures of the ecast desig concrete c	e calcula gn and d compone s	ation and can design	production and calo	on of ulate a
prefabricated s variety of prec Contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing l - Dimensioning - Structural des Prefabricated co - Historical dev - Requirements - Getting to km	httructures. They ar ast elements in but hcrete constructio elopment, prestre he tendon profile n of internal force: osses g prestressed conc ign of prestressed construction: elopment, special s for a design suita pow FT type program	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultimar concrete components features of the planning ble for finished parts ms	the special feat le specifics in pro- ed prestressed o te limit states g and constructi	ures of the ecast desig concrete c	e calcula gn and d compone s	ation and can design	production and calo	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing I - Dimensioning - Structural des Prefabricated dev - Historical dev - Requirements - Getting to kno - Special featur - Planning and	And the second provide the secon	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning ble for finished parts ms xecution planning	the special feat le specifics in pro- ed prestressed o te limit states g and constructi	ures of the ecast desig concrete c	e calcula gn and d compone s	ation and can design	production and calo	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing l - Dimensioning - Structural des Prefabricated co - Historical dev - Requirements - Getting to kno - Special featur - Planning and	Anticipation about the structures. They are ast elements in but increte construction elopment, prestre the tendon profile in of internal forces osses g prestressed conc ign of prestressed construction: elopment, special s for a design suita ow FT type programes es regarding the ed dimensioning spece	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning ble for finished parts ms xecution planning cial standardized connec	the special feat le specifics in pro- ed prestressed o te limit states g and constructi	ures of the ecast desig concrete c	e calcula gn and d compone	ation and can design	production and calo	on of ulate a
prefabricated s variety of prec contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing I - Dimensioning - Structural des Prefabricated dev - Historical dev - Requirements - Getting to kno - Special featur - Planning and	And the second s	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect	the special feat le specifics in pro- ed prestressed o te limit states g and constructi ctions Workload (in ho	ures of the ecast desig concrete c ion proces	e calcula gn and d compone s	ation and can design	production and calo	on of ulate a
Prestressed co - Historical dev - Determining f - Determining f - Determinatio prestressing l - Dimensioning - Structural des Prefabricated co - Historical dev - Requirements - Getting to kno - Special featur - Planning and Course attenda	And the second s	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect latory hours - LVS) 4 LVS	the special feat re specifics in pro- ed prestressed of te limit states g and constructi ctions Workload (in ho <u>Course attenda</u>	ures of the ecast desig concrete c ion proces	e calcula gn and c compone s	ation and can design ents takin	production and calo	on of ulate a
Prefabricated s variety of prec Contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing l - Dimensioning - Structural des Prefabricated co - Historical dev - Requirements - Getting to kno - Special featur - Planning and Course attenda Prof. Dr. Marti	And the second s	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultimar concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect latory hours - LVS) 4 LVS -	the special feat e specifics in pro- ed prestressed of te limit states g and constructi ctions Workload (in ho Course attendar Lecture	ures of the ecast desig concrete c ion proces ours) nce time 45 h	e calcula gn and d compone s <u>Home</u> Course	ents takin	production and calo	on of ulate a
Prefabricated s variety of prec Contents: Prestressed co - Historical dev - Determining f - Determinatio prestressing I - Dimensioning - Structural des Prefabricated co - Historical dev - Requirements - Getting to kno - Special featur - Planning and Course attenda Prof. Dr. Marti	Anterior about the structures. They are ast elements in but increte construction elopment, prestre the tendon profile in of internal forces osses g prestressed concession sign of prestressed construction: elopment, special s for a design suita pow FT type program es regarding the e dimensioning spece ince time (in mano- n Klaus	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect datory hours - LVS) 4 LVS - -	the special feature specifics in pro- ed prestressed of the limit states g and constructions Workload (in how constructions Workload (in how course attendate lecture Exercise for the special feature feature for the special feature feature for the special feature for the special feature for the special feature for the special feature fea	ures of the ecast desig concrete c ion proces ours) nce time 45 h 15 h	e calcula gn and d compone s S Home Course and ex	ents takin	production and calo	on of ulate a count all 120 h
Prestressed co - Historical dev - Determining f - Determining f - Determinatio prestressing l - Dimensioning - Structural dev - Historical dev - Historical dev - Requirements - Getting to kno - Special featur - Planning and Course attenda	And the second s	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect latory hours - LVS) 4 LVS - - -	the special feature specifics in provide specific s	ures of the ecast desig concrete c ion proces ours) nce time 45 h 15 h	e calcula gn and d compone s Home Course and ex	ents takin ents takin study accompa am prepa	production and calo	on of ulate a count all 120 h
Contents: Prestressed co - Historical dev - Determining to - Determining to - Determination prestressing l - Dimensioning - Structural des Prefabricated co - Historical dev - Requirements - Getting to known - Special featur - Planning and Course attenda Prof. Dr. Marti	Antipaction about the search about the s	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultimat concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect datory hours - LVS) 4 LVS - - 4 LVS 4 LVS	the special feat e specifics in pro- ed prestressed of te limit states g and constructi ctions Workload (in ho Course attendar Lecture Exercise Other Total workload	ures of the ecast desig concrete c ion proces ours) nce time 45 h 15 h	e calcula gn and d compone s Home Course and ex	ents takin ents takin study accompa am prepa	production and calo	on of ulate a count all 120 h 180 h
orefabricated s variety of prec ontents: Prestressed co - Historical dev - Determining f - Determinatio prestressing l - Dimensioning - Structural des Prefabricated dev - Historical dev - Requirements - Getting to kno - Special featur - Planning and Course attenda Prof. Dr. Marti	httructures. They ar ast elements in but hcrete constructio elopment, prestre he tendon profile n of internal force: osses g prestressed conc ign of prestressed construction: elopment, special s for a design suita pow FT type program es regarding the e dimensioning spec nce time (in mano n Klaus	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultimar concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect datory hours - LVS) 4 LVS - - - 4 LVS 4 LVS	the special feature specifics in provide specifics and constructions ed prestressed of the limit states g and constructions Workload (in how constructions Workload (in how constructions Workload (in how constructions Exercise Other Total workload	ures of the ecast desig concrete c ion proces ours) nce time 45 h 15 h	e calcula gn and d compone s s <u>Home</u> Course and ex	ents takin	production and calo	on of ulate a count all 120 h 180 h
Prestressed co - Historical dev - Determining f - Determining f - Determinatio prestressing I - Dimensioning - Structural dev - Historical dev - Historical dev - Requirement: - Getting to kno - Special featur - Planning and Course attenda Prof. Dr. Marti	Antipact in about the search about the s	e planning process and e able to understand th ilding construction. n: ssing process s for statically determin rete parts in the ultima concrete components features of the planning ble for finished parts ms xecution planning cial standardized connect datory hours - LVS) 4 LVS - - - 4 LVS 4 LVS	the special feat le specifics in pro- ed prestressed of te limit states g and constructi ctions <u>Workload (in ho</u> <u>Course attendat</u> <u>Lecture</u> <u>Exercise</u> <u>Other</u> Total workload	ures of the ecast desig concrete c ion proces ours) nce time 45 h 15 h	e calcula gn and d compone s S <u>Home</u> Course and ex	ents takin ents takin study accompa am prepa	production and calo	on of ulate a count all 120 h 180 h

Allocation to course of study Bachelor of Civil Engineering		Module name		Course c	ode	Internal	Last upda	ted
Bachelor of Civ	il Engineering	Basic princip	oles of bridge	BB∖	/-36		21.06.2	021
Study semester 5th semester	Offered in WS	bui	lding	Credit points 6 CP		Semester week ho 4 SWS		
Allocation to study Structural civil e	specialization ngineering	Responsible for modu Prof. DrIng. Ma	lle rtin Klaus	Type of teaching, group size, if applicable Lecture and exercise				
Can also be credite	d to study program			Language	e of instr	uction		
Requirements acco	rding to examination re	gulations	Recommended prevention Solid construction (BBV-33)	equisites 1/2 (BB 3-	-7/BB 4-0	6); paralle	l: So. Solid	constructio
Study/examination Student resear	achievements/ examin rch paper without o	ation types colloquium	If applicable, weight	ing of the stu	udy/exam	ination ach	nievements	
They become f familiar with va substructures s understanding	amiliar with the te arious bridge syste such as piers and a of the design and	rminology used in bri ms, primarily in solid butments. Furthermo calculation of falsewo	dge building. They bridge constructio pre, they are famili prk/shoring.	have an o n. They ar ar with coi	overviev e able t nstructi	v of load to design ion proce	assumpti and calcu edures and	ons and a Ilate d have an
Contents: - General load- - Load assumpt - Building proce - Design and ca - Calculating sin	bearing systems in ions in road bridge esses ilculation of substrumple falsework/sho	bridge construction e construction uctures oring						
Contents: - General load- - Load assumpt - Building proce - Design and ca - Calculating sin Course attenda Prof. Dr. Marti	bearing systems in :ions in road bridge esses ilculation of substrumple falsework/sho	bridge construction e construction uctures pring atory hours - LVS) 4 LVS	Workload (in ho Course attendar	urs) ce time	Homes	study		
Contents: - General load- - Load assumpt - Building proce - Design and ca - Calculating sit Course attenda Prof. Dr. Marti	bearing systems in ions in road bridge esses ilculation of substrumple falsework/sho	atory hours - LVS)	Workload (in ho Course attendar Lecture 2 Exercise 2 Other	urs) ce time 30 h 30 h	Home : Course and ex	study accompa am prepa	anying aration	120 h
Contents: - General load- - Load assumpt - Building proce - Design and ca - Calculating sin Course attenda Prof. Dr. Marti	bearing systems in :ions in road bridge esses ilculation of substr mple falsework/sho i nce time (in mand n Klaus	atory hours - LVS) 4 LVS 4 LVS	Workload (in ho Course attendar Lecture 3 Exercise 3 Other 1 Total workload	urs) ce time 30 h 30 h	Home : Course and ex	study accompa am prepa	anying aration	120 h

is listed in Stud.IP

Bachelor of Civil Engineering				couc	interna	Last upuat	ea
	Stool on	ginooring	BB	V-37		01.09.20)18
Study semester Offered in 5th semester WS Allocation to study specialization Structural civil engineering Can also be credited to study program	Responsible for modu Prof. DrIng. Ste	ule fanie Steppeler	Credit p 6 CP Type of Lectu Langua	teaching, re with ge of instr	, group size, integrate ruction	Semester 4 SWS if applicable d exercise	week hours e S
- Requirements according to examination re	aulations	Recommended n	Germ	ian			
Requirements according to examination re	Suntions	BB 1-4, BB 2-	4, BB 4-5				
Study/examination achievements/ examin Written examination (K2) -	ation types	If applicable, wei	ghting of the si	tudy/exan	nination ach	lievements	
Module objectives/desired learning	ng outcomes:	÷					
Students • are proficient in the design and • can apply the verification of loc • detect components in steel con • are proficient in the basic check	construction of artice al load transfer with a struction that are at r s of bar-shaped com	ulated and flexu and without the risk in terms of s ponents in steel	rally rigid co formation o stability, constructio	onnectic of stiffer n that a	ons in stee hers in ste re suscep	el structur eel structu tible to st	es, ires, ability issues.
Contents:							
 Verification of local load transfe Introduction to the phenomena Fundamentals of the design of k are at risk of stability problems order, flexural torsional buckling 	er with and without th of stability specific to par-shaped componen (flexural buckling, ela g)	he formation of a steel construct nts in steel const isticity theory of	stiffeners in tion truction tha	t	ructures		
Course attendance time (in mand	latory hours - LVS)	Workload (in	hours)				
Prof. Dr. S. Steppeler	4 LVS	Course attend	lance time	Home	study		
	-	Lecture	60 h	Course	e accompa	anying	
	-	Exercise		and ex	am prepa	aration	120 h
	-	Other					
Total classroom time	4 LVS	Total workloa	ad				180 h
Literature							

Allocation to course of study	Mod	lule name		Course	code	Internal	Last updat	ed
Bachelor of Civil Engin	eering	Wood en	gineering	BB	V-38		24.08.2	018
Study semester Offere 5th semester WS Allocation to study specializa Structural civil engineeri Can also be credited to study	d in Resp ng Pro	onsible for modul	le ker Krämer	Credit p 6 CP Type of Lectu Languag	ooints teaching, re and e ge of instr	group size, exercise uction	Semester 4 SWS if applicable	week hours
- Requirements according to e	examination regulations		Recommended pro	Germ	an			
			Wood engine	ering:				
Study/examination achieven Written examination (-	nents/ examination type K2)	es	If applicable, weig	hting of the st	udy/exam	nination ach	ievements	
Module objectives/des Students • learn further joining • are also able to dete buckling lengths, • learn how to determ members, • learn to design and w	ired learning outco techniques in timb rmine the complian ine internal forces verify large-format	omes: per constructio nce of lanyards on composite timber compo	n and how to ve s and the influer members (rigid nents, with non-	erify them ir nce of comp and yieldin -parallel co	n accord bliance c ng) and h mponer	lance witl on interna now to ve nt edges.	h standaro al forces a rify comp	ds, nd osite
Contents: • Methods of joining in • Specially designed do	n carpentry owels							
 Screws Yielding of connection Bending resistant co Composite compone Pitched roof girders Saddle roof girders (state) 	ons nnections, spring s nts straight / curved bo	tiffnesses ottom chord)						
Course attendance tim	ie (in mandatory h	ours - LVS)	Workload (in h	nours)				
Prof. Dr. V. Krämer		4 LVS	Course attenda	ance time	Home	study		1
		-	Exercise	40 n 20 h	and ex	accompa am prepa	anying iration	120 h
Total classroom time		-	Total workload	d				180 h
Optional extra Literature is listed in Stud.IP								

Bachelor of Civil Engineering	Module name		Course	code	Internal	Last updated
Bachelor of Civil Linghieering	Water mana	gement and	BB	V 62		01.09.2018
Study semester Offered in Sth semester WS	water en	gineering	Credit p 6 CP	oints		Semester week ho 4 SWS
Allocation to study specialization	Responsible for modu	le	Type of	teaching,	group size,	if applicable
Tan also be credited to study program	Prof. DrIng. Axe	l Stödter	Languag	re ze of instr	uction	
-			Germ	an		
Requirements according to examination re	gulations	Recommended prer	equisites			
Study / avancination achieven ants / avancin	ation types	BB 3-5 Basic pri	nciples of	hydrau	lics	iovomonto
Written examination (K2)	ation types	ir applicable, weight	ing of the st	udy/exam	ination acr	lievements
-						
Aodule objectives/desired learnin	ng outcomes:					
understand their uses, and compr	rehend their hydrolog	ic design.			"	
Contents: - Water management and water b - Engineering hydrology - Statistics and modeling - Basic terminology and structure - Hydroelectric power plants - Hydraulic engineering uses	oalance of hydraulic engineer	ing facilities				
ontents: - Water management and water k - Engineering hydrology - Statistics and modeling - Basic terminology and structure - Hydroelectric power plants - Hydraulic engineering uses	oalance of hydraulic engineer	ing facilities				
ontents: - Water management and water k - Engineering hydrology - Statistics and modeling - Basic terminology and structure - Hydroelectric power plants - Hydraulic engineering uses - Hydraulic engineering uses	oalance of hydraulic engineer atory hours - LVS)	ing facilities Workload (in ho	urs)			
ontents: - Water management and water k - Engineering hydrology - Statistics and modeling - Basic terminology and structure - Hydroelectric power plants - Hydraulic engineering uses - Hydraulic engineering uses	oalance of hydraulic engineer atory hours - LVS) 4 LVS	ing facilities Workload (in ho Course attendar	urs) ice time	Home	study	
Contents: - Water management and water b - Engineering hydrology - Statistics and modeling - Basic terminology and structure - Hydroelectric power plants - Hydraulic engineering uses - Hydraulic engineering uses Course attendance time (in mand Prof. Dr. A. Stödter	oalance of hydraulic engineer atory hours - LVS) 4 LVS -	ing facilities Workload (in ho Course attendar Lecture	urs) ice time 50 h	Home	study	anying
Contents: - Water management and water b - Engineering hydrology - Statistics and modeling - Basic terminology and structure - Hydroelectric power plants - Hydraulic engineering uses - Hydraulic engineering uses Course attendance time (in mand Prof. Dr. A. Stödter	oalance of hydraulic engineer atory hours - LVS) 4 LVS - -	ing facilities Workload (in ho Course attendar Lecture (Exercise	urs) ice time 50 h	Home Course and ex	study accompa	anying aration 120
Contents: - Water management and water b - Engineering hydrology - Statistics and modeling - Basic terminology and structure - Hydroelectric power plants - Hydraulic engineering uses - Hydraulic engineering uses Course attendance time (in mand Prof. Dr. A. Stödter	oalance of hydraulic engineer atory hours - LVS) 4 LVS - - - - -	ing facilities Workload (in ho Course attendar Lecture (Exercise Other	urs) ice time 50 h	Home - Course and ex	study accompa am prepa	anying aration 120

Allocation to course	e of study	Module name		Course	code	Internal	Last updated	d
Bachelor of Civ	vil Engineering	Water engineering in		BB	V-63		18.05.2021	
Study semester 5th semester	Offered in WS	actual p	practice	Credit 6 CP	points		Semester we 4 SWS	eek hours
Allocation to study Water and traffi	specialization	Responsible for modul	le dtor	Type of	teaching,	group size,	if applicable	
Can also be credite	d to study program		uter	Langua	ge of instr an	uction		
Requirements acco	rding to examination reg	ulations	Recommended pre	erequisites				
Study/examination Student resear	achievements/ examinat	tion types quium	If applicable, weig	nting of the s	tudy/exam	nination ach	ievements	
 Module objective Part: Water end Students gain preventes in a experiments in a part: Workshope In addition, para needs with ope Alternatively, control are possible. Overarching I They are enable they develop the professional ope 	ves/desired learning ngineering lab practical knowledge a hydraulic engineer op/excursion rticipation in a work erators is mandatory other practical exerc earning objectives: ed to develop their heir own team, conf pen-mindedness and	g outcomes: of the functional relation ring lab. shop or field trip to v 7. A good working kn ise components/wor own learning strateg flict, facilitation and l d agility, as well as th	ationships betwe view selected hy owledge of Engli rkshops/excursic gies and conduct leadership skills. heir creativity.	een hydrau draulic eng ish may als ons with th independe The projee	ilic syste gineering to be rec e same r ent resea ct improv	ms. To do g facilities juired. module o arch. With ves their	o so, they co and discust bjectives hin the proj- motivation,	onduct s current ect work
Contents: - Models of hyd - Experiments of - Participation engineering/wa	draulic engineering p on gravity feeders ar in a national/interna ater management co	วlant components an nd pipelines ational workshop/exc วntext	nd the laws gove cursion in a hydr	rning them aulic	1			
Course attenda	nce time (in manda	tory hours - LVS)	Workload (in h	ours)				
Prof. Dr. Axel S	itödter	4 LVS	Course attenda	ance time	Home	studv		
			Lecture	30 h	Course	accompa	anying	
		-	Exercise	30 h	and ex	am prepa	aration	120 h
		-	Other					100 k
Total classroon	n time	4 LVS	Total workload	t de la companya de				180 h
Literature	d IP							
	u.ir							

Allocation to course	e of study	Module name		Course	code	Internal	Last updated
Bachelor of Civ	il Engineering	Drinking	water and	BB	V 64		01.09.2018
Study semester 5th semester	Offered in WS	wastewate	r networks	Credit p	ooints		Semester week hours 4 SWS
Allocation to study Water and traffic Can also be credited	specialization c engineering d to study program	Responsible for modul Prof. DrIng. Gün	e ther Bahre	Type of Lectu Langua	teaching, rewith e	group size, exercises uction	if applicable
- Requirements accor	rding to examination regu	lations	Recommended pre	Germ erequisites apletion of	an ^F module	BB 3-3	
Study/examination	achievements/ examinati	on types	If applicable, weigh	nting of the s	tudy/exam	ination ach	ievements
Written examir -	nation (K2)						
Module objectiv	ves/desired learning	outcomes:					
the limits of t • They are able elements. • They master t • They have ba	he process. to define complete he tools needed to o sic knowledge and sh	systems for potable construct drinking w kills to renovate was	water supply an vater and wastew stewater networl	ıd dimensi vater netw ks.	on the m orks.	najor indi	vidual
Contents:							
 Collection of I Practical meti Calculation ar calculation ar calculation Construction Testing for lease Causes of dar 	basic data on drinkin hods and tools for hy nd dimensioning of d nd dimensioning of w of pipelines using op aks nage, damage identi	g water and wastew /draulic calculation of rinking water netwo /astewater network pen and trenchless n fication and assessn	vater volumes of partially and f orks including sto s including verifi nethods nent as well as re	ully filled p prage tank cation me ehabilitatio	oipelines s and pu thods by on of was	mping st hydrody stewater	ations namic pipes
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	ours)			
Prof. Dr. G. Bał	nre	4 LVS	Course attenda	ince time	Home	study	
		-	Lecture	50 h	Course	accompa	anying
		-	Exercise	10 h	and ex	am prepa	ration 120 h
Tabal		-	Other				
	time	4 LVS	lotal workload	1			180 h
Exercise units							
Literature is listed in Stud	J.IP						

Allocation to course of study	Module name		Course	code	Internal	Last updated		
Bachelor of Civil Engineerin	g Drinkin	gwator	BB	V 66		01.09.2018		
Study semester Offered in SS		g water,	Credit p	points		Semester wee	k hours	
5th semester	wastewate	er, waste in	6 CP			4 SWS		
	developing	g countries		Turne of teaching, and the first the set of				
Allocation to study specialization Water and traffic engineering	Prof. DrIng. Gür	le other Bahre	Lectu	rteaching, I re	group size,	if applicable		
Can also be credited to study progr	am		Langua Germ	ge of instr I an	uction			
Requirements according to examin	ation regulations	Recommended pre	erequisites	fmodule	e BB 3-3			
Study/examination achievements/	examination types	If applicable, weig	hting of the st	tudy/exan	nination ach	nievements		
Seminar paper								
-								
Module objectives/desired l	earning outcomes:							
 and can realistically assess Students acquire basic ski international water sector Contents: Health hazards due to water 'Appropriate and sustainates Processes for drinking water Processes for decentralizetes Alternative drainage system Forms of organization in test to be a sector of the sector of the	s their application possibiliti lls in project development a ter ble technologies' ter production, treatment a ed and centralized treatmen ems (small bore sewer syste he drinking water and wast treatment and disposal	ies and limits. and implementat and distribution in at of wastewater m, condominial s ewater sector	n rural and	urban a	of the			
• • • • • • •								
Course attendance time (in	mandatory hours - LVS)	Workload (in h	iours)	11-	- 4			
Prot. Dr. G. Banre	4 LVS	Lecture	ance time	Ноте	study	anving		
		Exercise	00 11	and ex	am prepa	aration 1	20 h	
	-	Other			1-1 - 1-1			
Total classroom time	4 LVS	Total workload	k	I		1	.80 h	
Optional extra								
Literature								
is listed in Stud.IP								

Allocation to course of study	Module name		Course	code	Internal	Last update	d	
Bachelor of Civil Engineering	Streets and	d roadways	BB	V-67		05.08.20	18	
Study semester Offered in 5th semester WS Allocation to study specialization Water and traffic engineering	Responsible for modu	le	Credit p 6 CP Type of Lecture	teaching,	Semester week h 4 SWS , group size, if applicable		eek hours	
Can also be credited to study program			Langua	ge of instr	uction			
Requirements according to examination regu	llations	Recommended pre	erequisites					
		Participation in module BB 3-2 Traffic and water engineering						
Study/examination achievements/ examinati Student research paper with colloq -	on types uium	If applicable, weighting of the study/examination achievements						
Module objectives/desired learning	outcomes:							
 In-depth knowledge of determining applicable guidelines of the FGSV Ability to create planning variants Ability to dimension the road strue Decision-making for the developm Ability to develop text and drawine Ability to present and defend the Contents: Planning and building law Planning process and design stage Categorization of roads according 	s according to the produced by an operation of the design parameters of the produced by the pr	neters of rural ro reviously develop ies adapted to the adapted to the	ped target ne local area	definitic	ds in acco	ordance wit	h the	
- Design of rural roads in site plan, e	elevation plan and c	ross sections						
- At-grade and elevated intersection	ns/junctions							
- Road surfacing								
- Urban road design								
Course attendance time (in mandat	ory hours - LVS)	Workload (in h	nours)					
HonProf. Daniel Seebo	2 LVS	Course attenda	ance time	Home	study	. 1		
Assistant lecturer	2 LVS	Lecture	60 h	Course	accompa	anying	120 h	
	-	Exercise			ani piepa	πατιστι	12011	
Total classroom time	-	Total workload	4				180 h	
Optional extra	4 LV3		A				100 11	
Literature is listed in Stud.IP								

Bachelor of Civil Engineering			Course	code	Internal	Last upda	ted
	Designing tr	affic facilities	BB	V-68		04.08.2	018
Study semester Offered in 5th semester WS Allocation to study specialization Water and traffic engineering Can also be credited to study program	Responsible for mode	ule	Credit p 6 CP Type of Semir Languag	Credit points Semeste 6 CP 4 SWS Type of teaching, group size, if applicate Seminar teaching Language of instruction			week hours e
- Requirements according to examination reg	ulations	Recommended prere	Germ	an			
Requirements according to examination reg	ulations	Participation in	module E	3B 3-2 Tr	affic and	water en	gineering
Study/examination achievements/ examination	tion types	If applicable, weighti	ng of the st	udy/exam	ination ach	ievements	
Student research paper with colloc	quium						
- Module objectives/desired learning	g outcomes:						
 Ability to carry out the evaluation of view of traffic engineering and Basic understanding of simulation 	of the quality of th the user tasks	e traffic facility fror	n the poi	nt			
Contents:							
Contents: - Basic principles and definitions fro - Dimensioning elevated intersectio - Dimensioning at-grade intersectio - Dimensioning route sections - Introduction to the VISSIM progra - Network processing and traffic co - Motion models and visualization of	om the current refe ons ons with and withou am system ontrol of traffic flows	rence works ut traffic signals					
Contents: - Basic principles and definitions fru - Dimensioning elevated intersection - Dimensioning at-grade intersection - Dimensioning route sections - Introduction to the VISSIM progra - Network processing and traffic co - Motion models and visualization of Course attendance time (in manda	om the current refe ons ons with and withou am system ontrol of traffic flows tory hours - LVS)	rence works ut traffic signals Workload (in hor	urs)				
Contents: - Basic principles and definitions fro - Dimensioning elevated intersectio - Dimensioning at-grade intersectio - Dimensioning route sections - Introduction to the VISSIM progra - Network processing and traffic co - Motion models and visualization of Motion models and visualization of Course attendance time (in manda HonProf. Dr. D. Seebo	om the current refeons ons with and withou am system ontrol of traffic flows tory hours - LVS)	rence works ut traffic signals Workload (in hor Course attendan	urs) ce time	Home	study		
Contents: - Basic principles and definitions fru - Dimensioning elevated intersectio - Dimensioning at-grade intersectio - Dimensioning route sections - Introduction to the VISSIM progra - Network processing and traffic co - Motion models and visualization of Motion models and visualization of Course attendance time (in manda HonProf. Dr. D. Seebo	om the current refeons ons with and withou am system ontrol of traffic flows tory hours - LVS) 4 LVS -	workload (in hor Course attendan	urs) ce time 50 h	Homes	study accompa	anying	120 h
Contents: - Basic principles and definitions fro - Dimensioning elevated intersectio - Dimensioning at-grade intersectio - Dimensioning route sections - Introduction to the VISSIM progra - Network processing and traffic co - Motion models and visualization of Course attendance time (in manda HonProf. Dr. D. Seebo	om the current refeons ons with and withou am system ontrol of traffic flows tory hours - LVS) 4 LVS - -	workload (in hor Course attendan Lecture 6 Exercise	urs) ce time 50 h	Home s Course and exa	study accompa am prepa	anying aration	120 h
Contents: - Basic principles and definitions fro - Dimensioning elevated intersectio - Dimensioning route sections - Introduction to the VISSIM progra - Network processing and traffic co - Motion models and visualization of Course attendance time (in manda HonProf. Dr. D. Seebo Total classroom time	om the current refeons ons with and withou am system ontrol of traffic flows tory hours - LVS) 4 LVS - - - 4 LVS 4 LVS	Workload (in hor Course attendan Lecture 6 Exercise 0 Other Total workload	urs) ce time 50 h	Home s Course and exa	study accompa am prepa	anying aration	120 h 180 h

Allocation to course	e of study	Module name		Course	code	Internal	Last updat	ed
Bachelor of Civ	il Engineering	Railroad co	onstruction	BB	V-69		01.09.2	018
Study semester 5th semester	Offered in WS			Credit	points		Semester 4 SWS	week hours
Allocation to study Water and traffi	specialization c engineering	Responsible for modul	le	Type of Lectu	f teaching, Ire with	group size, exercises	if applicable	2
Can also be credite	d to study program			Langua	ge of instr	uction		
-	rding to examination regu	lations	Recommended pr	Germ	nan			
none		liacions	Participation i	n module l	BB 3-2 Ti	affic and	water en	gineering
Study/examination	achievements/ examinati	on types	If applicable, weig	hting of the s	tudy/exam	ination ach	ievements	0 0
Student resear	ch paper with colloq	uium						
Module objectiv	ves/desired learning	outcomes:						
 are able to ca know the bas know the leg are able to de 	arry out routing calcu lics of operations cor al regulations and or esign railroad facilitie	Ilations, htrol technology and dinances for rail tra es and plan construc	d signaling in rail nsport, SPNV an ction execution.	transport, d SPFV,				
Contents:								
 Calculation of Lines and des Signal planning 	f permissible speeds ign of railroad facilit og in the station and	in the travel path ies Substructure and track area	d superstructure	S				
Determining when driving	train sequences Basion on electric sight in h	c principles of opera igh-speed traffic	ations control in	the main s	ignal, pr	e-signalir	ng system	and
Travel time c	alculations	f						-to -to
track operation	operations planning on, track-change ope	ration, signalized w	rong-way opera	tion, drivin	g on cor	nmand	ermittent	single-
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	nours)				
N.N.	, ,	4 LVS	Course attenda	ance time	Home	study		
		-	Lecture	50 h	Course	accompa	anying	
		-	Exercise	10 h	and ex	am prepa	ration	120 h
		-	Other		1			
Total classroom	n time	4 LVS	Total workload	d	•			180 h
Optional extra								
Literature								
is listed in Stu	d.IP							

Allocation to course	e of study	Module name		Course	code	Internal	Last updated
Bachelor of Civ	vil Engineering	Traffic eng	vineering in	BB	V-70		04.08.2018
Study semester 5th semester	Offered in WS	actual	practice	Credit p 6 CP	ooints		Semester week hours 4 SWS
Allocation to study	specialization	Responsible for modu	le	Type of	teaching,	group size,	if applicable
Water and traffi	c engineering	N.N.		Semi	nar teac	hing/wor	kshop
Can also be credite	d to study program			Langua	ge of instr	uction Englich	
- Requirements acco	rding to examination regu	lations	Recommended pre	erequisites		affic and	water engineering
Study/examination	achievements/ examinati	on types		ting of the s	tudy/evan	anne and	ievements
Student resear	ch paper without co	lloquium	in applicable, weigi	ting of the s	tuu yy exun		
-							
Module objectiv	ves/desired learning	outcomes:	1				
- Knowledge ar	nd understanding of	system interrelation	nships in traffic p	lanning			
- Knowledge of	r practical interrelation	rking group as a key	c sector		aomont'	\	
- Ability to set	age in technical discu	ission evaluation o	f strategies and	decision m	gement, Jaking)	
- Ability to eval	luate solution approa	aches and design va	riants		aking		
- Writing plann	ing and drafting pap	ers appropriate to t	he system				
01	0 01 1						
Contents:							
Possible conte	nts depending on the	e task:					
- Traffic strateg	gies						
- Traffic concep	ots						
- Marketing str	ategies						
- Order procure	ement						
- Services and f	fees						
- Practical train	ing in the project						
- Liability issue	S						
Course attenda	ince time (in mandat	ory hours - LVS)	Workload (in h	ours)			
DiplIng. A. Ma	arkwart, M.Sc.	4 LVS	Course attenda	nce time	Home	study	. 1
		-	Lecture	30 h	Course	accomp	anying
		-	Exercise	30 h	and ex	am prepa	iration 120 h
Total day		-	Other				
	ntime	4 LVS	lotal workload	I			180 h
Optional extra							
Literature							
is listed in Stu	d IP						
	u.ii						

Allocation to course	e of study	Module name		Course	code	Internal	Last updat	ed	
Bachelor of Civ	il Engineering	Current to	opics from	BB	V-71		04.08.2	018	
Study semester 5th semester	Offered in SS	streets and	d roadways	Credit	Credit points 6 CP			week hours	
Allocation to study	specialization	Responsible for modu	le	Type of	f teaching,	group size,	if applicable	-	
Can also be credite	d to study program	N.N.		Langua	nar teac	ning uction			
-				Germ	nan				
Requirements acco	rding to examination regu	lations	Recommended prerequisites Participation in module BB 3-2 Streets and roadways						
Study/examination	achievements/ examinati	on types	If applicable, weig	hting of the s	tudy/exam	nination ach	nievements		
Written exami	nation (K1)		Exam 50% , st	udent rese	earch pap	oer 50%			
Student resear	ch paper without col	loquium							
Module objectiv	ves/desired learning	outcomes:							
Contents:									
 Introduction t Coordinate m Introduction t Axis and gradi Terrain profile Preparation o Part 2: Road cc Basic principle serviceability Road construct 	o the structure of the anagement, digital to o street and road rou ent processing e determination, cross f site plan drawings, enstruction and main es of recording, evalu and substance ction methods and m	e program system errain model, site p uting as sections, profile p axis drawings, eleva tenance: lating and forecastin heasures for road m	lan editing processing ation drawings, p ng road conditio aintenance	profile drav	vings gard to				
Course attenda	nce time (in mandat	ory hours - LVS)	Workload (in h	nours)	1				
HonProf. Dan	iel Seebo	2 LVS	Course attenda	ance time	Home	study			
Assistant lectu	rer	2 LVS	Lecture	60 h	Course	accompany	anying	120 h	
		-	Other			ani picho			
Total classroon	n time	4 LVS	Total workload	d	I			180 h	
Optional extra Literature is listed in Stu	d.IP								

Allocation to course	e of study	Module name		Course code	Internal	Last updated	
Bachelor of Civ	vil Engineering	Building o	perations 3	BBV 81		25.01.2019	
Study semester 5th semester	Offered in WS			Credit points 6 CP		Semester week hours 4 SWS	
Allocation to study Building operation Management Can also be credite	specialization ons, construction d to study program	Responsible for module Prof. DrIng. Mario Hanusrichter		Type of teaching, group size, if applicable Lecture, exercise Language of instruction			
Requirements acco	rding to examination re	Recommended prerequisites Building operations 1 and 2					
Written exami	nation (K2)						
Module objection Construction in Students acqui involved. The f acquired in the	ves/desired learnin ndustry II: re in-depth knowle ocus in this course e lectures is applied	g outcomes: dge of the organizat is on the economic a and expanded in a p	tion of construction aspects in the conte practical manner in	and the interact ext of contract ex the form of exer	ion of the ecution. T cises.	e various parties The knowledge	
Building techno Students acqui engineering) in reinforced in a	ology II: re advanced knowl cluding scheduling. practical manner.	edge of special aspe In the form of an e:	ects of construction xercise, the previou	engineering (esp is knowledge of s	ecially co scheduling	nstruction process g will be applied and	

Contents:

Construction industry II (lecture):

- Joint ventures; risks and conflicts; forms of entrepreneurship
- Cost planning according to DIN 276; architect and engineer contracts
- Securing claims for payment and performance
- Changes in performance; price adjustment; supplementary agreements; subcontractor agreements
- Work calculation and performance
- evaluation construction Industry II (exercise)
- Calculation of overhead costs; calculation of special items
- Partial termination; changes in quantity (compensation calculation)

Building technology II:

- Excavation pits; construction in groundwater; formwork technology; semi-finished parts
- Underground construction; road construction; pipeline construction; bridge construction; tunnel construction
- Demolition work and disposal
- Job scheduling with exercise

Course attendance time (in mandatory hours - LVS)		Workload (in hours)				
Prof. Dr. M. Hanusrichter	4 LVS	Course attend	ance time	Home study		
	-	Lecture	50 h	Course accompanying		
	-	Exercise	10 h	and exam preparation	120 h	
	-	Other				
Total classroom time	4 LVS	Total workload 180				
Optional extra					•	
Literature						
is listed in Stud.IP						

	of study	Module name		Course code	Internal	Last updated	
Bachelor of Civ	il Engineering	Building sup	ervision and	BBV 82		25.01.2019	
Study semester 5th semester	Offered in SS	site mana	site management			Semester week hours 4 SWS	
Allocation to study	specialization	Responsible for modul	e io Hanusrichtor	Type of teaching,	group size,	if applicable	
Management		FIOL DL-IIIg. Mai			cise, serii		
Can also be credited	l to study program			Language of instr German	uction		
Requirements accor	ding to examination re	gulations	Recommended prereq Building operatio	uisites Ins 3			
Study/examination	achievements/ examina	ition types	If applicable, weighting	g of the study/exan	nination ach	ievements	
Written examir	nation (K1)						
-							
Module objectiv	es/desired learnin	g outcomes:					
Building superv With a suitable	ken at special cont ision and site mana number of particip the preparation and	ractual features in JV agement (seminar pap bants, the students de d delivery of presenta agement: With a suita	(SF) contracts. pers, exercises): cal with the differer ations and thereby i able number of par	nt interests of th improve their sl ticipants, select	ne constru kills. ed projec	iction parties in	
Seminar on cor activities of var	struction site man ious professions ar	e presented in lecture	e seminars by speal	kers from the co	onstructio	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv	ious professions ar	e presented in lecture	e seminars by speal	kers from the co	onstructio	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi	istruction site man ious professions ar ision and site mana tions for the job; ta	e presented in lecture agement (lecture): asks and requirement:	e seminars by speal	kers from the co	onstructio	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi - Legal framewo	istruction site man ious professions ar ision and site mana tions for the job; ta ork; client and auth	e presented in lecture agement (lecture): asks and requirements orities and institution	e seminars by speal s (requirements pro	kers from the co	onstructio	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi - Legal framewo - Activities of th	istruction site man ious professions ar ision and site man tions for the job; ta ork; client and auth ie contractor and t	e presented in lecture agement (lecture): asks and requirements orities and institution he client site manage	e seminars by speal s (requirements pro is involved r	kers from the co	onstructio	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi - Legal framewo - Activities of th - Construction s	istruction site man ious professions ar ision and site mana tions for the job; ta ork; client and auth ie contractor and t ite documentation	e presented in lecture agement (lecture): asks and requirement: orities and institution he client site manage ; meetings and corres	e seminars by speal s (requirements pro is involved r spondence; measur	kers from the co ofile) rement and billi	ng	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi - Legal framewo - Activities of th - Construction s	istruction site man ious professions ar tions for the job; ta ork; client and auth te contractor and t ite documentation deployment; perfo	e presented in lecture agement (lecture): asks and requirements orities and institution he client site manage ; meetings and corres ormance reporting	e seminars by speal s (requirements pro ns involved r spondence; measur	kers from the co ofile) rement and billi	ng	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi - Legal framewo - Activities of th - Construction s - Subcontractor - Identification	istruction site man ious professions ar ision and site man tions for the job; ta ork; client and auth the contractor and t ite documentation deployment; perfo and management o	e presented in lecture agement (lecture): asks and requirements orities and institution he client site manage ; meetings and corres prmance reporting of disruptions in the co	e seminars by speal s (requirements pro is involved r spondence; measur onstruction process	kers from the co ofile) rement and billi s; supplementa	ng ry manag	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi - Legal framewo - Activities of th - Construction s - Subcontractor - Identification - Dealing with o	istruction site mana ious professions ar ision and site mana tions for the job; ta ork; client and auth the contractor and the site documentation deployment; perfor and management of rises; partnership-li	agement (lecture): asks and requirements orities and institution he client site manager ; meetings and corres ormance reporting of disruptions in the co based approaches to s	e seminars by speal s (requirements pro is involved r spondence; measur onstruction process solutions; managen	kers from the co ofile) rement and billi s; supplementa nent discussion	ng ry manago s	ts and typical n industry.	
Seminar on cor activities of var Contents: Building superv - General condi - Legal framewo - Activities of th - Construction s - Subcontractor - Identification - Dealing with c - Typical regula	istruction site man ious professions ar tions for the job; ta ork; client and auth te contractor and the deployment; perfo and management of rises; partnership-l tions in GU-(SF) con	e presented in lecture agement (lecture): asks and requirements orities and institution he client site manager ; meetings and corres ormance reporting of disruptions in the co based approaches to so intracts; concretization	e seminars by speal s (requirements pro ns involved r spondence; measur onstruction process solutions; managen n of the performance	kers from the co ofile) rement and billi s; supplementa nent discussion ce target; samp	ng ry manag s ling	ts and typical n industry.	

Building supervision and site management (seminar papers, exercise):

- Addenda; acceptance, securities, concerns, disturbed construction process
- Processing of a quotation calculation, negotiation; presentation

Course attendance time (in mandatory hours - LVS)		Workload (in hours)				
Prof. Dr. M. Hanusrichter	4 LVS	Course attendance time		Home study		
	-	Lecture	50 h	Course accompanying		
	-	Exercise	10 h	and exam preparation	120 h	
	-	Other				
Total classroom time	4 LVS	Total workloa	d		180 h	
Optional extra					·	
Literature						

is	listed	in	Stud.IP
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ıdy	Module name	Module name		Internal	Last updated		
Bachelor of Civil Engineering Project ma		nagement	BBV-83		01.04.2019		
ered in	, ,		Credit points Se		Semester week hours		
i			6 CP		4 SWS		
lization	Responsible for module		Type of teaching,	group size,	if applicable		
Building operations, construction Prof. Dr. M. Han		srichter	srichter Lecture, exercise, seminar papers				
Management							
udy program			Language of instruction				
			German				
o examination regu	lations	Recommended prerequisites					
ements/ examinati	on types	If applicable, weighting of the study/examination achievements					
Student research paper with colloquium		Presentation: if a	pplicable, part o	of the exa	amination (see below)		
	dy fineering ization onstruction udy program o examination regu ements/ examinati per with collog	independent of the second seco	Indext Module name Indext Project management Indext Project management Indext Responsible for module Indext Prof. Dr. M. Hanusrichter Indext Prof. Dr. M. Hanusrichter Indext Recommended preference Indext Recommended preference Indext Recommended preference Indext If applicable, weightin Indext Presentation: if a	Indext Module name Course code Project management BBV-83 Image: Green in an addition of the study/example of the study of	Internal Module name Course code Internal Project management BBV-83 Internal Ization Responsible for module Credit points Credit points ponstruction Responsible for module Type of teaching, group size, Lecture, exercise, sem udy program Internal Internal o examination regulations Recommended prerequisites Internal per with colloquium If applicable, weighting of the study/examination ach Presentation: if applicable, part of the examination Internal		

Module objectives/desired learning outcomes:

Project management (lecture):

Students acquire knowledge of the organizational tasks of all those involved in construction as well as the basic features of national and international project management standards and methods. In addition, students learn about the basic organization of projects (structures, processes and products).

Students should be able to use the basic tools for planning and controlling the parameters of deadlines, costs, and quality. Knowledge of the relationship between technology and the organization of execution should give them an overall view of project execution. They should know the project structures and project elements as a result. They can select and apply the most important tools for scheduling, cost and quality control for construction and operation for specific purposes. They learn the basics of how to think and act in order to manage projects in a target-oriented manner. Students acquire basic knowledge of the topics DIGITALIZATION (DIGITAL DESIGN AND CONSTRUCTION) and LEAN CONSTRUCTION.

Project management (seminar papers, exercises):

With a suitable number of participants, students deal with the various facets of project management in exercises or in the preparation and delivery of presentations, thereby improving their skills.

Contents:

BASIC PRINCIPLES OF PROJECT MANAGEMENT: Introduction to project management; project management standards and methods; project organization:

Structures, processes and products in construction projects; boundary conditions of the project

SCHEDULING: Basic principles of goal-oriented control; project organization; structure of projects; methods, tools; work objectives; time planning, sequence planning

COST CONTROL: Cost control on the side of the client; goals and tasks of cost determination and pricing at the contractor; classification of cost determination and cost control; cost types at the contractor; structure of the individual costs; sources of information for the cost types; dynamic contribution margin accounting; cost determination and pricing; determination of the enforceable market price QUALITY CONTROL: Agreement on characteristics; recognized rules of technology; suitability for the use assumed under the contract or for normal use; quality planning

DIGITALIZATION (DIGITAL DESIGN AND CONSTRUCTION): Basics of Building Information Modeling (BIM); basic ideas of BIM; benefits and influence of BIM on construction project management

Course attendance time (in mandatory hours - LVS)		Workload (in hours)						
Prof. Dr. M. Hanusrichter	4 LVS	Course attend	ance time	Home study				
	-	Lecture	50 h	Course accompanying				
	-	Exercise	10 h	and exam preparation	120 h			
	-	Other						
Total classroom time	4 LVS	Total workloa	180 h					

Optional extra

Literature

is listed in Stud.IP

Allocation to course of study Module		Module name	e name		code	Internal	Last upda	ited
Bachelor of Civ	il Engineering	Safety a	nd health	BB	V-84		01.12.2019	
Study semester 6th semester	Offered in SS	prot	ection	Credit 6 CP	points		Semester week hou 4 SWS	week hour
Allocation to study Building operation Management	specialization ons, construction	Responsible for mod Prof. Dr. M. Har	lule nusrichter	Type o Lectu	f teaching, Ire, exer	group size, cise	if applicabl	е
Can also be credited	d to study program			Language of instruction German				
Requirements acco	rding to examination re	gulations	Recommended p	rerequisites				
Study/examination Written examin -	achievements/ examina nation (K2)	ition types	If applicable, wei	ghting of the s	tudy/exan	nination ach	lievements	
- Acquisition of RAB 30 Annex - Basic knowled	dge on how to prep	are an operational n	risk assessment k (exercise):			Ordinan		
- Development	of a sample risk as	sessment						
- Development - Development Contents: Occupational h and assessmen protective mea It focuses on, a Occupational h protective mea scaffolding, saf protection, haz demolition and toilets and othe	of a sample risk as ealth and safety kn t of hazards on con sures required for mong other things: ealth and safety leg sures (measures fo e use of ladders, m ards due to hazard renovation work, s er facilities, persona	owledge includes ge struction sites and o this and the organiz gislation and system r safety mining and obile scaffolds and l ous substances, me safe use of machine al protective equipn	eneral principles during subsequer ation of occupati a, site-specific acc civil engineering lifting platforms, asures for safety ry and equipmen nent	of occupati nt work on f ional health cident and h work, haza hazards du during asse at), first aid	onal hea the build and saf rds due e to elec embly wo facilities	alth and si ling struct ety on co to falling, tricity, op ork, meas , day shel	afety, ide tures, as nstructio d necessa safe use perationa sures for s lters, was	entificatio well as the n sites. ary of l fire safety du hrooms,
- Development - Development Contents: Occupational h and assessmen protective mea It focuses on, a Occupational h protective mea scaffolding, saf protection, haz demolition and toilets and other Based on this, s	of a sample risk as ealth and safety kn t of hazards on con sures required for mong other things: ealth and safety leg sures (measures fo e use of ladders, m ards due to hazard renovation work, s er facilities, persona students are gradua	owledge includes ge struction sites and o this and the organiz gislation and system r safety mining and obile scaffolds and l ous substances, me safe use of machine al protective equipn ally introduced to th	eneral principles during subsequer ation of occupati a, site-specific acc civil engineering lifting platforms, asures for safety ry and equipmen nent te preparation of	of occupati nt work on ional health cident and h work, haza hazards du during asse hazards adu during asse	onal hea the build and saf rds due e to elec embly wo facilities	alth and sa ling struct ety on co azards and to falling, tricity, op ork, meas , day shel or a const	afety, ide tures, as nstructio d necessa safe use perationa sures for s lters, was	entificatio well as the n sites. ary of l fire safety du hrooms, company
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Literature is listed in Stud.IP

Allocation to course of study		Module name		Course	code	Internal	Last updat	ted		
Bachelor of Civil Engineering		Practical training project		t BB	V 98		01.09.20	018		
Study semester 7th semester	Offered in WS + SS			Credit p 6 CP	oints	-1	Semester n/a	week hours		
Allocation to study	specialization	Responsible for module		Type of	Type of teaching, group size, if applicable					
Can also be credited to study program		Language of instruction			ruction					
- Requirements according to examination regulations		German Recommended prerequisites								
Study/examination achievements/ examination types		If applicable, weighting of the study/examination achievements								
Student research paper without colloquium			n applicable, weighting of the study/examination achievements							
Module objectiv	ves/desired learnin	g outcomes:								
Practical traini	n projects can be c	-	subject areas of ci	vilengine	aring					
Practical trainin	ig projects can be c	carried out in all the s	subject areas of ci	ivii engine	ering					
Depending on t	the tack a subject of	an a sifia ar intardisain	line nu project wit	h hiah nra	atical ra	Jovanco i	c corriad c			
Depending on	the task, a subject-s	specific or interdiscip	inary project wit	n nign pra	ctical re	elevance i	s carried o	but in		
cooperation wi	th an engineering f	irm, a company, a sp	ecialist authority,	, etc. Stude	ents dea	al with a t	ask that is	5		
narrowly define	ed in terms of conte	ent and scope, carry	out experimental	(laborato	ry/field)	investiga	ations if			
necessary, and	work out solutions	largely independent	ly. They are able to the	to assess t	ne effe	cts and co	onsequend	ces of		
the solutions th	ney have developed	themselves, and the	ey can make tech	nical and e	conom	ic assessr	nents and			
classifications.										
Contents:										
Practical projoc	ts with different fo	cucos from the fields	of Structural one	incoring	Nator o	nginoorin	a traffic a	nginooring		
construction or	peration/managem	ent geotechnical end	gineering or inter	discinlinar	water e	ngineenn	g, trainc e	ingineering,		
construction of	Jeration/managem		sincering of inter-	uiscipiinai	у					
The assignmen	t is coordinated wit	h the students, the p	project partners a	nd the suc	ervisor	s for the i	ntended			
task of the Bac	helor's thesis and ta	akes into account the	e specialization (m	naior) chos	en by t	he studer	nts.			
				· j - /	/ -					
Course attenda	nce time (in manda	atory hours - LVS)	Workload (in hours)							
entire teaching staff, per student 0.2 LVS		Course attenda	, nce time	time Home study						
	· ·	-	Lecture		Course	e accomp	anying			
		-	Exercise		and ex	am prepa	aration	177 h		
		-	Other	3 h						
Total classroom	n time	0.2 LVS	Total workload 180 h							
Optional extra		·								
Literature										
is listed in Stu	d.IP									

Allocation to course of study		Module name		Course	code	Internal	Last updated	
Bachelor of Civil Engineering		Special	Special project		V 99		01.09.2018	
Study semester 5th semester	Offered in WS + SS		project	Credit	redit points 5 CP		Semester week hours n/a	
Allocation to study All Can also be credited	specialization d to study program	Responsible for modul	e	Type of Proje Langua Germ	Type of teaching, group size, Project with (lab and f Language of instruction German		, if applicable field) exercises	
Requirements acco	rding to examination re	gulations	Recommended	prerequisites				
Study/examination Student resear	If applicable, we	ighting of the s	tudy/exam	nination ach	ievements			
Module objectiv	ves/desired learnin	ig outcomes:						
Practical trainin Depending on cooperation wi develops soluti	ng projects can be o the task, a subject- th an engineering f ons that are design	carried out in all the s specific or interdiscipl firm, a company, a spo ned to assess follow-u	ubject areas o linary project v ecialist author p effects and p	f civil engine with high pra ity, etc., in w provide tech	ering actical re hich the nical and	levance i student, d econom	s carried out in largely independen ic evaluations.	ıtly,
Contents:								
Practical projec construction of The assignmen	ts with different fo peration/managem t will take into acco	ocuses from the fields ent, geotechnical eng ount the specializatior	of Structural e gineering or int n/major chose	engineering, terdisciplinar n by the stuc	water ei Ƴ lent.	ngineerin	g, traffic engineerin	g,
Course attendance time (in mandatory hours - LVS)			Workload (in hours)					
All professors,	per student	0.2 LVS	Course atten	dance time	ce time Home study		nying	
		-	Exercise		and ex	accompa am prepa	ration 177 h	
		-	Other	3 h				
Total classroon	n time	0.2 LVS	Total worklo	ad			180 h	
Literature is listed in Stu	d.IP							

March 2022

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