

Study and examination schedule: Smart Transportation Systems (STS) - B.Sc.

Study					Examinations	
Sem.	Modules and associated courses	LF	SWS	LP	PL	Weight.
1. 20 SWS 30 LP	STS 1: Transport and infrastructure planning		4	6	PA	6
	Traffic and infrastructure planning	V + Ü	3 + 1			
	STS 2: Economic fundamentals		4	6	KL60	6
	Economic fundamentals	V + Ü	3 + 1			
	STS 3: Fundamentals of mathematics		4	6	KL60	6
	Fundamentals of mathematics	V + Ü	2 + 2			
	STS 4: Fundamentals of computer science and Programming		4	6	PA	6
	Fundamentals of computer science and programming	V + L	2 + 2			
	STS 5: English level B2: English for Professional Purposes		4	6	KL60+LE	6
English level B2: English for Professional Purposes	V	4				
2. 20 SWS 30 LP	STS 6: Road traffic engineering with laboratory		4	6	KL60+EA	6
	Road traffic engineering	V + Ü	2 + 1			
	Driving dynamics of road vehicles	L	1			
	STS 7: Environmental ethics, Participatory moderation and communication		4	6	KL60/ PR/ HA	6
	Environmental ethics	V + S	1 + 1			6
	Participatory moderation and communication	S	2			
	STS 8: Mobility management		4	6	PA	6
	Theory, goals and fields of application of the Mobility management	V + S	2 + 2			
	STS 9: Applied mathematical methods		4	6	KL60	6
	Applied mathematical methods	V + Ü	2 + 2			
STS 10: Database systems and big data		4	6	KL60	6	
Database systems and big data	V + L	2 + 2				

Study					Examinations	
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3. 20 SWS 30 LP	STS 11: Soft skills		4	6	HA+PR	6
	Scientific work	V + Ü	1 + 1			
	Presentation and conflict management	S	2			
	STS 12: Sustainability and transport ecology with laboratory		4	6	KL60+PA	6
	Lecture Transport Ecology	V	2			
	Traffic Ecology Laboratory	L	1			
	Lecture on sustainability	V	1			
	STS 13: Fundamentals of technology - Technical Mechanics		4	6	KL60	6
	Technical mechanics	V + Ü	2 + 2			
	STS 14: Technical fundamentals of electrical with laboratory		4	6	KL60+EA	6
	Electrical engineering with laboratory	V + L	3 + 1			
	4. 20 SWS 30 LP	STS 15: Transport policy and legal framework		4	6	PA / RE / KL60
Transport policy		V + S	1 + 1			
Legal framework		V	2			
STS 16: Rail transport technology with laboratory			4	6	KL60+EA	6
Rail transport technology with laboratory		V + L	3 + 1			
STS 17: Traffic stations and surroundings/ Cycling traffic management			4	6	MP+PA / RE	6
Planning of traffic stations and surroundings		V	2			
Cycling traffic management		V + Ü	1 + 1			
STS 18: Mobility analyses and Traffic models with laboratory			4	6	KL60+EA	6
Mobility analyses and traffic models		V + Ü	1 + 1			
Surveys and models		L	2			
STS 19: Traffic control with laboratory			4	6	KL60+EA	6
Traffic control	V + Ü	1 + 1				
Traffic control laboratory	L	2				
STS 20: Fundamentals of measurement and Control engineering with laboratory		4	6	KL60+EA	6	
Basics of measurement and control technology with Laboratory	V + L	2 + 2				

Study					Examinations	
Sem.	Modules and associated courses	LF	SWS	LP	PL	Weight.
5. 16 SWS 30 LP	STS 21: Digitalization in road and rail transport Rail transport		4	6	KL60 / KL30+EA / MP+EA	6
	Digitalization in road and rail transport	V + L	2 + 2			
	STS 22: Road traffic routes		4	6	KL60 + PA	6
	Traffic routes Road	V + Ü	2 + 2			
	STS 23: Electromobility		4	6	KL60 + PA	6
	The basics of electromobility	V	2			
	Current topics Electromobility	V + P	1 + 1			
	STS 24: Compulsory elective module I (*)		4	6	(*)	6
	Compulsory elective subject A		2			
	Compulsory elective subject B		2			
STS 25: Student research project				6	SA	6
Student research project	B					
6. 20 SWS 30 LP	STS 26: Intelligent transportation technologies with Laboratory		4	6	KL60+EA	6
	Intelligent transportation technologies	V + Ü	1 + 1			
	Traffic management laboratory, rail part	L	1			
	Traffic management laboratory, road section	L	1			
	STS 27: Rail transport routes		4	6	KL60+EA	6
	Rail transport routes	V + Ü	3 + 1			
	STS 28: Case Studies (**)		8	12	(**)	12
	Case Study 1		8			
	Case Study 2		8			
	STS 29: Compulsory elective module II (*)		4	6	(*)	6
Elective subject C		2				
Compulsory elective subject D		2				
7. 30 LP	STS 30: Supervised practical phase			15		
	Supervised practical phase	B				
	STS 31: Bachelor thesis and colloquium			15	BA+KO	30
	Bachelor thesis					60 %
Colloquium					40 %	
Totals: SWS, LP and weighting factors			116	210		210

- (*) Two compulsory elective subjects from the catalog of compulsory elective subjects, see Annex II.8
(**) A case study from the offer