Study plan

Name of study plan: Master Full-Time DS from 2024/25

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Transportation Systems and Technology

Type of study: Follow-up master full-time

Required credits: 120 Elective courses credits: 0 Sum of credits in the plan: 120

Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 93

The role of the block: Z

Code of the group: 1S-NP-DS-24/25-DC

View conditions. Proposed road space passage. Processing of road 3D models.

Name of the group: 1st Sem. Master Full-Time DS from 2024/25

Requirement credits in the group: In this group you have to gain 22 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 22 Note on the group:

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Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
612IKD	Rail Transport Infrastructure Tomáš Javořík	Z,ZK	5	2P+2C	Z	Z
612TKVP	Highway Engineering Materials Otakar Vacín Otakar Vacín (Gar.)	Z,ZK	4	2P+2C	Z	Z
618GAZ	Geomechanics and Foundation Engineering Vít Malinovský Vít Malinovský (Gar.)	Z,ZK	3	2P+1C	Z	Z
618TIK	Theory of Engineering Structures Ján Kopačka Josef Kocourek (Gar.)	Z,ZK	4	2P+1C	Z	Z
614GISS	Geographical Information Systems Zuzana Purkrábková, František Kekula	KZ	2	0P+2C+8E	B Z	Z
622MSV	Modelling and Vehicle Movement Simulation Drahomir Schmidt, Michal Frydrýn Michal Frydrýn Drahomir Schmidt (Gar.)	KZ	2	0P+2C	Z	Z
615J2A1	Language - English 1 Karolina Beauxisová, Jan Feit	Z	2	0P+2C+10E	Z	Z

615J2A1	Karolina Beauxisová, Jan Feit					Z
Characteristics of	the courses of this group of Study Plan: Code=1S-NP-DS-24/25-DC	Name=1st S	em. Mas	ter Full-Ti	me DS 1	from 2024/25
612IKD	Rail Transport Infrastructure			Z	,ZK	5
Non-compensated latera	al acceleration, parameters eduction for transition curve and cant transition, curves without str	aight, track spacin	ng change.	Track detailed	constructi	on. Substructure
design, slab track. Tram	train. Interoperability. Noise precautions. Railway line modernization for non-tilting and tiltin-	ng trains.				
612TKVP	Highway Engineering Materials			Z	,ZK	4
The theory of road cons	truction - Material Aspects. The course emphasizes the development of road construction f	from the beginning	g of the 20	th century to	the preser	it, focusing on
materials, understandin	g the production and placing of asphalt mixtures.					
618GAZ	Geomechanics and Foundation Engineering			Z	,ZK	3
Geology (basics of perti	ographyand stratigraphy), mechanics of soils (classification of fundamental soils, mechanic	c properties of fur	ndamental	soils, permea	bility), plar	nar foundations
(footings, footers, plates	, depth of founding), determination of planar foundations bearing and deformation, depth fo	oundations classif	fication of c	lepth foundati	ons eleme	ents, examples
of their use, piles (class	fication, technology od performing).					
618TIK	Theory of Engineering Structures			Z	,ZK	4
The course builds upon	the knowledge gained in basic mechanics courses in bachelor study (especially Statics and	d Elasticity) in the	field of mat	thematical the	ory of elas	sticity. Emphasis
is placed on plane and	axisymmetric problems, as well as on the calculation of stress and strain in plates and shell	ls. Students are fu	ırther acqu	ainted with m	ethods of	modeling the
behavior of subsoil used	I in the design of line structures.					
614GISS	Geographical Information Systems				KZ	2
Construction of saving f	ormat of space-oriented information land-survey and cartography minimum basic tasks of s	spatial operations	principles	of territorial ic	dentificatio	n
622MSV	Modelling and Vehicle Movement Simulation				KZ	2
Principles and posibilitie	Principles and posibilities of simulation tools with regards to vehicle movement analysis and vehicle crash analysis. Kinematic and dynamic modelling of vehicle/set of vehicles movement.					

615J2A1 Language - English 1

Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language of management

Code of the group: 1S-NP-DS-V1-24/25-DC

Name of the group: 1st Sem. Master Full-Time DS Alternative from 2024/25 Requirement credits in the group: In this group you have to gain 4 credits

Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 4 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
617DOPD	Transportation Planning and Modeling Milan Kříž Milan Kříž (Gar.)	Z,ZK	4	2P+2C	Z	Z
617TZND	Technology of Railway Transport Michal Drábek Vít Janoš (Gar.)	Z,ZK	4	2P+2C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=1S-NP-DS-V1-24/25-DC Name=1st Sem. Master Full-Time DS Alternative from 2024/25

617DOPD Transportation Planning and Modeling Z,ZK Basic steps and tools used within four step model (trip generation, trip distribution, mode choice and trip distribution). Mobility and availability in urban areas, land use. New trends for transportation planning and modelling

Technology of Railway Transport

Track line capacity assessment, model operational situation with a system running time between IPT-nodes, calculation of traction energy savings compared with infrastructure costs for designing of fleeting crossing station, solving of capacity problem and blocking time in relation to train protection system, robustness of timetable, system concept of freight train paths, guidelines for centralised operational traffic control and management.

Code of the group: 2S-NP-DS-24/25-DC

Name of the group: 2nd Sem. Bachelor Full-Time DS from 2024/25

Requirement credits in the group: In this group you have to gain 20 credits

Requirement courses in the group: In this group you have to complete 6 courses

Credits in the group: 20 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
612NAPI	Design and Maintenance of Transportation Structures	Z,ZK	4	2P+2C	L	Z
612UMUP	Sustainable Mobility and Land - Use Planning	Z,ZK	5	2P+2C	L	Z
612ZSUZ	Railway Stations and Centres	Z,ZK	3	2P+1C	L	Z
616PDP	Principles of Vehicle Design	ZK	2	2P+0C+8B	L	Z
622AMMD	Measuring Methods Applied to Transportation	KZ	4	1P+3C	L	Z
615JBA2	Language - English 2	Z	2	0P+2C+10B	L	Z

Characteristics of the courses of this group of Study Plan: Code=2S-NP-DS-24/25-DC Name=2nd Sem. Bachelor Full-Time DS from 2024/25

612NAPI	Design and Maintenance of Transportation Structures	Z,ZK	4				
Design and construction of cement-concrete pavements and their maintenance. Construction of bridge objects, examples and choice of bridge construction materials. Construction							
and operation of tunne	ls.						
612UMUP	Sustainable Mobility and Land - Use Planning	7.7K	5				

Spatial planning - objectives and tasks, development over time. Land-use planning tools. SUMP Territorial and transport planning context. Ways of urban growth in connection with transport. Basic principles of the transport solution. The impact of transport on the size and shape of the city, on the development of the street and the square and the roads. Solutions for pedestrian and bicycle transport. Suburbanization and transport. City economics.

612ZSUZ Railway Stations and Centres Z,ZK

3

Equipment for passenger transport. Platform construction. Access roads to platforms. Modification of railway stations according to the TSI PRM. Station heads design. Variant solutions of station heads for current ride. Junction stations. Crossing stations. Passenger stations. Moving stations. Public transport terminals.

616PDP Principles of Vehicle Design

Design of transportation vehicle according to its usage and function. Marketing and user demands. Vehicle dynamics. Propulsion systems. Design process, functional design and vehicle structure. Evaluation of variant concepts. Design phases. Realiability, technological aspects etc.

622AMMD Measuring Methods Applied to Transportation

Geodetic location and technical processing of traffic route with geodetic total station, GPS and photogrammetry, 3D scanning. Transport corridor setting out using geodetic methods. Detection and technical processing of several vehicle dynamic characteristics using high-speed cameras and accelerometers. It is a week course and the terms are usually set in June and September - usually in examination period.

615JBA2 Language - English 2

Z | 2

Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language of management.

Code of the group: 2S-NP-DS-V1-24/25-DC

Name of the group: 2nd Sem. Master Full-Time DS Alternative from 2024/25 Requirement credits in the group: In this group you have to gain 4 credits

Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 4 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
612BED	Road Safety Audit	Z,ZK	4	2P+1C	L	Z
618TEAM	Theoretical and Applied Mechanics	Z,ZK	4	2P+1C	L	Z

Characteristics of the courses of this group of Study Plan: Code=2S-NP-DS-V1-24/25-DC Name=2nd Sem. Master Full-Time DS Alternative from 2024/25

Code of the group: 3S-NP-DS-25/26-DC

Name of the group: 3rd Sem. Bachelor Full-Time DS from 2025/26

Requirement credits in the group: In this group you have to gain 20 credits

Requirement courses in the group: In this group you have to complete 5 courses

Credits in the group: 20 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
611STS	Stochastic Systems Ivan Nagy, Pavla Pecherková Ivan Nagy (Gar.)	Z,ZK	4	2P+2C+14B	Z	Z
612DAZP	Transport and Environment Tomáš Javořík	Z,ZK	4	2P+1C	Z	Z
612TEAP	Theory of Road Traffic Operation Vladimír Faltus, Zuzana Čarská Vladimír Faltus (Gar.)	Z,ZK	7	3P+2C	Z	Z
612VRZ	High Speed Rail Transport Lukáš Týta, Martin Ráž Lukáš Týta (Gar.)	KZ	3	2P+0C	Z	Z
615JBA3	Language - English 3 Jan Feit	Z	2	0P+2C+10B	Z	Z

Characteristics of the courses of this group of Study Plan: Code=3S-NP-DS-25/26-DC Name=3rd Sem. Bachelor Full-Time DS from 2025/26

611STS	Stochastic Systems	Z,ZK	4
The subject deals with	the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction.	The results are i	llustrated on
practical transportation	tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian probability	abilistic approach	h.
612DAZP	Transport and Environment	Z,ZK	4
This course aims the in	npact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy deman	ds. The noise me	asury is part and
parcel of this course.			
612TEAP	Theory of Road Traffic Operation	Z,ZK	7
Traffic parameters and	their measurement, acquisition and processing. Road capacity analysis. Theoretical foundations and applications of mathematical foundations and applications of mathematical foundations.	atical models - ma	acroscopic,
statistical and microsc	opic traffic models. Theory of traffic management. Traffic light signals, roundabouts, coordination, public transport priority. Urba	ın and highway m	ıanagement.
Traffic excesses mana	gement. Road assessment and maintenance methods. Health risks assessment.		
612VRZ	High Speed Rail Transport	KZ	3
High speed railway (H	SR) transport characteristics and position in transportation system. Types / models of HSR systems, preparation of high speed	railway lines build	ding in the Czech
Republic conditions. N	on-adhesion HSR systems. City and region traffic service by HSR. HSR operating points. HSR worldwide network. HSR routin	g and traffic cond	eption. Specifics
of HSR track construct	ion and layout track parameteres.		
615JBA3	Language - English 3	Z	2

Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language of management.

Code of the group: 3S-NP-DS-V1-25/26-DC

Name of the group: 3rd Sem. Master Full-Time DS Alternative from 2025/26 Requirement credits in the group: In this group you have to gain 3 credits

Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 3 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
612IDOS	Integrated Transport Systems Jan Kruntorád, Martin Jareš	ZK	3	2P+0C	Z	Z
616STK	Simulation and Testing of Vehicle Body and Systems	ZK	3	2P+0C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=3S-NP-DS-V1-25/26-DC Name=3rd Sem. Master Full-Time DS Alternative from 2025/26

612IDOS	Integrated Transport Systems	ZK	3		
Reasons for building of integrated transport systems, principle of integration, dividing of integration methods, traffic, infrastructure, technical, organizational methods, integration of					
tariff, sales systems, information systems, marketing of system, examples of non-integration.					
616STK	616STK Simulation and Testing of Vehicle Body and Systems ZK 3				
Simulation theory. Computing equipment for simulation. Modeling of mechanical and dynamic systems. Simulation and optimization methods. Hardware in the Loop (HIL). Simulation					
approaches for vehicle design. Simulation of propulsion and electric systems. Strength and material analyses of dynamical phenomena for vehicles of on-land carriage.					

Code of the group: 4S-NP-DS-25/26-DC

Name of the group: 4th Sem. Bachelor Full-Time DS from 2025/26

Requirement credits in the group: In this group you have to gain 2 credits

Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 2 Note on the group:

	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
615JBA4	Language - English 4	ZK	2	0P+2C+10B	L	Z

Characteristics of the courses of this group of Study Plan: Code=4S-NP-DS-25/26-DC Name=4th Sem. Bachelor Full-Time DS from 2025/26

615JBA4	Language - English 4	ZK	2		
Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising					
technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language					
of management.				l	

Code of the group: XD-NP-DS-25/26-DC

Name of the group: Thesis Master Full-Time DS from 2025/26

Requirement credits in the group: In this group you have to gain 18 credits Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 18 Note on the group:

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Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
611XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
612XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
614XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
615XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
616XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
617XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
618XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
620XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z

621XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
622XNDD	Master Thesis for study programme DS Michal Frydrýn	Z	18	0P+20C	L	Z

Characteristics of the courses of this group of Study Plan: Code=XD-NP-DS-25/26-DC Name=Thesis Master Full-Time DS from 2025/26

611XNDD	Master Thesis for study programme DS	Z	18
612XNDD	Master Thesis for study programme DS	Z	18
614XNDD	Master Thesis for study programme DS	Z	18
615XNDD	Master Thesis for study programme DS	Z	18
616XNDD	Master Thesis for study programme DS	Z	18
617XNDD	Master Thesis for study programme DS	Z	18
618XNDD	Master Thesis for study programme DS	Z	18
620XNDD	Master Thesis for study programme DS	Z	18
621XNDD	Master Thesis for study programme DS	Z	18
622XNDD	Master Thesis for study programme DS	Z	18

Name of the block: Semestrální projekt Minimal number of credits of the block: 13

The role of the block: ZP

Code of the group: X2-NP-DS-24/25-DC

Name of the group: Research Groups Master Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 13 credits

Requirement courses in the group: In this group you have to complete 4 courses

Credits in the group: 13 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
622XN1	Master Project 1	Z	2	0P+2C	Z	ZP
621XN1	Master Project 1	Z	2	0P+2C	Z	ZP
614XN1	Master Project 1	Z	2	0P+2C	Z	ZP
611XN1	Master Project 1	Z	2	0P+2C	Z	ZP
617XN1	Master Project 1	Z	2	0P+2C	Z	ZP
612XN1	Master Project 1 Josef Kocourek, Dagmar Kočárková	Z	2	0P+2C	Z	ZP
620XN1	Master Project 1	Z	2	0P+2C	Z	ZP
618XN1	Master Project 1	Z	2	0P+2C	Z	ZP
616XN1	Master Project 1	Z	2	0P+2C	Z	ZP
615XN1	Master Project 1 Petr Musil	Z	2	0P+2C	Z	ZP
616XN2	Master Project 2	Z	2	0P+2C	L	ZP
615XN2	Master Project 2	Z	2	0P+2C	L	ZP
622XN2	Master Project 2	Z	2	0P+2C	L	ZP
614XN2	Master Project 2	Z	2	0P+2C	L	ZP
612XN2	Master Project 2	Z	2	0P+2C	L	ZP
611XN2	Master Project 2	Z	2	0P+2C	L	ZP
621XN2	Master Project 2	Z	2	0P+2C	L	ZP
617XN2	Master Project 2	Z	2	0P+2C	L	ZP
620XN2	Master Project 2	Z	2	0P+2C	L	ZP
618XN2	Master Project 2	Z	2	0P+2C	L	ZP
618XN3	Master Project 3	Z	1	0P+4C	Z	ZP
617XN3	Master Project 3	Z	1	0P+4C	Z	ZP
616XN3	Master Project 3	Z	1	0P+4C	Z	ZP
612XN3	Master Project 3	Z	1	0P+4C	Z	ZP
611XN3	Master Project 3	Z	1	0P+4C	Z	ZP
614XN3	Master Project 3	Z	1	0P+4C	Z	ZP

622XN3	Master Project 3	Z	1	0P+4C	Z	ZP
615XN3	Master Project 3 Petr Musil	Z	1	0P+4C	Z	ZP
621XN3	Master Project 3	Z	1	0P+4C	Z	ZP
620XN3	Master Project 3	Z	1	0P+4C	Z	ZP
616XN4	Master Project 4	Z	8	0P+4C	L	ZP
614XN4	Master Project 4	Z	8	0P+4C	L	ZP
621XN4	Master Project 4	Z	8	0P+4C	L	ZP
612XN4	Master Project 4	Z	8	0P+4C	L	ZP
618XN4	Master Project 4	Z	8	0P+4C	L	ZP
615XN4	Master Project 4	Z	8	0P+4C	L	ZP
620XN4	Master Project 4	Z	8	0P+4C	L	ZP
611XN4	Master Project 4	Z	8	0P+4C	L	ZP
617XN4	Master Project 4	Z	8	0P+4C	L	ZP
622XN4	Master Project 4	Z	8	0P+4C	L	ZP

Characteristics of the courses of this group of Study Plan: Code=X2-NP-DS-24/25-DC Name=Research Groups Master Full-Time DS from 2024/25

621XN1	from 2024/25			
B14XN1	622XN1	Master Project 1	Z	2
611XN1	621XN1	Master Project 1		2
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	611XN4	Master Project 4	Z	8
622XN4 Master Project 4 Z 8	617XN4	Master Project 4		8
	622XN4	Master Project 4	Z	8

Name of the block: Compulsory elective courses Minimal number of credits of the block: 6

The role of the block: PV

Code of the group: Y2-NP-DS-24/25-DC

Name of the group: Comp. Sel. Courses Master Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 6 credits

Requirement courses in the group: In this group you have to complete 3 courses

Credits in the group: 6 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
612Y2KS	Rail Transport in Settlements and Regions Martin Jacura Martin Jacura (Gar.)	KZ	2	2P+0C	Z	PV
612Y2MD	Methods of Traffic Regulation and Prediction	KZ	2	2P+0C	L	PV

Characteristics of the courses of this group of Study Plan: Code=Y2-NP-DS-24/25-DC Name=Comp. Sel. Courses Master Full-Time DS from 2024/25

612Y2KS	Rail Transport in Settlements and Regions	KZ	2
Modernization and deve	lopment of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway servic	es. Network confi	guration and
operation of metro syste	ms. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected countries / required.)	gions).	
612Y2MD	Methods of Traffic Regulation and Prediction	KZ	2
	Methods of Traffic Regulation and Prediction prosis, traffic prognosis for large area (calculation of future traffic volumes, calculation of future traffic volumes between areas of the control of the c	KZ analogical and sy	2 nthetic methods,

Name of the block: Jazyky

Minimal number of credits of the block: 8

The role of the block: J

Code of the group: JZ-NP-DS-24/25-DC

Name of the group: Language Courses Master Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 8 credits

Requirement courses in the group: In this group you have to complete 4 courses

Credits in the group: 8
Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
615J2F1	Language - French 1	Z	2	0P+2C+10E	Z	J
615JBF2	Language - French 2	Z	2	0P+2C+10E	B L	J
615JBF3	Language - French 3	Z	2	0P+2C+10E	Z	J
615JBF4	Language - French 4	ZK	2	0P+2C+10E	B L	J
615J2I1	Language - Italian 1	Z	2	0P+2C+10E	B Z	J
615JBI2	Language - Italian 2	Z	2	0P+2C+10E	B L	J
615JBI3	Language - Italian 3	Z	2	0P+2C+10E	Z	J
615JBI4	Language - Italian 4	ZK	2	0P+2C+10E	B L	J
615J2N1	Language - German 1 Eva Rezlerová	Z	2	0P+2C+10E	Z	J
615JBN2	Language - German 2	Z	2	0P+2C+10E	B L	J
615JBN3	Language - German 3 Eva Rezlerová	Z	2	0P+2C+10E	B Z	J
615JBN4	Language - German 4	ZK	2	0P+2C+10E	B L	J
615J2R1	Language - Russian 1 Marie Michlová	Z	2	0P+2C+10E	B Z	J
615JBR2	Language - Russian 2	Z	2	0P+2C+10E	B L	J
615JBR3	Language - Russian 3 Marie Michlová	Z	2	0P+2C+10E	3 Z	J
615JBR4	Language - Russian 4	ZK	2	0P+2C+10E	B L	J
615J2S1	Language - Spanish 1	Z	2	0P+2C+10E	Z	J
615JBS2	Language - Spanish 2	Z	2	0P+2C+10E	B L	J

615JBS3	Language - Spanish 3	Z	2	0P+2C+10B	Z	J
615JBS4	Language - Spanish 4	ZK	2	0P+2C+10B	L	J
haracteristics of th	e courses of this group of Study Plan: Code=JZ-NP-	DS-24/25-DC Name=Lanç	juage	Courses Ma	ster Fu	II-Time D
	anguage - French 1			Z		2
	d Style. Selection of conversation topics relating to transportation science	es. Developing perceptive and cor	nmunica	l l		
	turing presentations and meeting minutes, elementary rhetorics of foreign	gn language and practical applicat	ion, forn	nal and technical	registers	and their use
nguage of management.				1 -		
	anguage - French 2 d Style. Selection of conversation topics relating to transportation scienc	res Developing perceptive and cou	nmunica	Z Z		2 summarisina
	turing presentations and meeting minutes, elementary rhetorics of forei					-
nguage of management.					_	
	anguage - French 3			Z	1	2
	ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentati					
atures. Practice of oral ar		on own knowledge in oral and w	TILLETT TO	iii. work with (pr	olessioi iai	i) text and its
	anguage - French 4			Zł	<u> </u>	2
	ection of conversation and professional topics based on the language le	evel and study focus at the Faculty.	Improve	l l		e knowledge
	nicative skills, vocabulary development. Basic stylistic forms. Presentation	on of own knowledge in oral and w	ritten for	m. Work with (pr	ofessional	l) text and its
atures. Practice of oral ar	·			1 -		
	anguage - Italian 1 d Style. Selection of conversation topics relating to transportation scienc	ses Developing perceptive and cou	nmunica	tive skills feedba		2 summarisina
	turing presentations and meeting minutes, elementary rhetorics of forei					-
inguage of management.			•		Ü	
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	d Style. Selection of conversation topics relating to transportation science					
	turing presentations and meeting minutes, elementary rhetorics of foreign	gn language and practical applicat	ion, forn	nal and technical	registers	and their us
nguage of management. 15JBI3 La	anguage - Italian 3			Z		2
	ection of conversation and professional topics based on the language le	evel and study focus at the Faculty	Improve	_		
	nicative skills, vocabulary development. Basic stylistic forms. Presentation					
atures. Practice of oral ar	d written presentation.					
l l	anguage - Italian 4			Zł	- 1	2
-	ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentati		-			_
eatures. Practice of oral ar		on own knowledge in oral and w	TILLETT TO	iii. work with (pr	olessioi iai	i) text and its
	anguage - German 1			Z		2
	d Style. Selection of conversation topics relating to transportation science	ces. Developing perceptive and cor	nmunica	tive skills, feedba	ack skills,	summarisin
	turing presentations and meeting minutes, elementary rhetorics of foreign	gn language and practical applicat	ion, forn	nal and technical	registers	and their us
anguage of management.				1 -		
· ·	anguage - German 2 d Style. Selection of conversation topics relating to transportation scienc	ses Developing perceptive and cou	nmunica	tive skills feedba		Z cummaricin
	turing presentations and meeting minutes, elementary rhetorics of forei					
anguage of management.					_	
	anguage - German 3			Z		2
•	ection of conversation and professional topics based on the language le		•			e knowledge
	the limit of the transfer of the					
	nicative skills, vocabulary development. Basic stylistic forms. Presentation	on of own knowledge in oral and w	ritten toi	m. work with (pr	ofessional) text and its
eatures. Practice of oral ar	d written presentation.	on of own knowledge in oral and w	ritten toi			-
eatures. Practice of oral are 15JBN4 La		-		Zł	(2
eatures. Practice of oral art 15JBN4 Liferammar and stylistics. Se nd perceptive and commu	d written presentation. Anguage - German 4 ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentation	evel and study focus at the Faculty.	Improve	Zł ement of languag	C e structure	2 e knowledge
eatures. Practice of oral artists 15JBN4 Logarimmar and stylistics. Seend perceptive and communicatures. Practice of oral artists.	d written presentation. anguage - German 4 ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentation d written presentation.	evel and study focus at the Faculty.	Improve	Zł ement of languag rm. Work with (pr	c structure ofessional	2 e knowledge l) text and its
eatures. Practice of oral artifold Interest Interes	d written presentation. Inguage - German 4 ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentation d written presentation. Inguage - Russian 1	evel and study focus at the Faculty. on of own knowledge in oral and w	Improve	ZP ement of languag rm. Work with (pr	e structure ofessional	2 e knowledge l) text and its
eatures. Practice of oral ar 115JBN4 Li Grammar and stylistics. Se and perceptive and commu- eatures. Practice of oral ar 115J2R1 Li Grammatical Structures an	d written presentation. anguage - German 4 ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentation d written presentation. anguage - Russian 1 d Style. Selection of conversation topics relating to transportation science	evel and study focus at the Faculty. on of own knowledge in oral and w	Improveritten for	ZP ement of languag rm. Work with (pr Z titive skills, feedba	e structure ofessional	2 e knowledge l) text and it 2 summarisin
eatures. Practice of oral are in 15JBN4 Life and stylistics. See and perceptive and communicatures. Practice of oral are in 15J2R1 Life armmatical Structures an eachnical text content, structures.	d written presentation. Inguage - German 4 ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentation d written presentation. Inguage - Russian 1	evel and study focus at the Faculty. on of own knowledge in oral and w	Improveritten for	ZP ement of languag rm. Work with (pr Z titive skills, feedba	e structure ofessional	2 e knowledge l) text and its 2 summarisin
eatures. Practice of oral are 15JBN4 Ligrammar and stylistics. See and perceptive and communicatures. Practice of oral are 15J2R1 Ligrammatical Structures and eachnical text content, structures of management.	d written presentation. anguage - German 4 ection of conversation and professional topics based on the language le nicative skills, vocabulary development. Basic stylistic forms. Presentation d written presentation. anguage - Russian 1 d Style. Selection of conversation topics relating to transportation science	evel and study focus at the Faculty. on of own knowledge in oral and w	Improveritten for	ZP ement of languag rm. Work with (pr Z titive skills, feedba	e structure ofessional ack skills, registers	2 e knowledge l) text and its 2 summarisin
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eatures. Practice of oral art in 15JBN4 La irammar and stylistics. See and perceptive and communicatures. Practice of oral art in 15J2R1 La irammatical Structures and exchain a text content, structures and exchain a structure and exchain and stylistics. See and perceptive and communicatures. Practice of oral articles and exchain a structure of oral articles and exchain a structure of oral articles.	d written presentation. Inguage - German 4 ection of conversation and professional topics based on the language lead in the conversation and professional topics based on the language lead to the conversation. Inguage - Russian 1 Inguage - Russian 1 Inguage - Russian 1 Inguage - Russian 2 Inguage - Russian 2 Inguage - Russian 2 Inguage - Russian 3 Inguage - Russi	evel and study focus at the Faculty. on of own knowledge in oral and w ces. Developing perceptive and cor gn language and practical applicat ces. Developing perceptive and cor gn language and practical applicat	Improve mmunication, forn munication, forn munication, forn Improve	ement of languagem. Work with (proceedings) Zutive skills, feedbard technical	e structure ack skills, registers ack skills, registers	2 e knowledge l) text and its 2 summarisin and their us 2 summarisin and their us 2 e knowledge l) text and its
pattures. Practice of oral are statures. Practice of oral are statures and statures and statures are statures. Practice of oral are statures are statures. Practice of oral are statures are statures. Practice of oral are statures.	d written presentation. Inguage - German 4 ection of conversation and professional topics based on the language lead in the conversation and professional topics based on the language lead in the conversation and professional topics stylistic forms. Presentation d written presentation. Inguage - Russian 1 If the style is selection of conversation topics relating to transportation science turing presentations and meeting minutes, elementary rhetorics of foreign and the selection of conversation topics relating to transportation science turing presentations and meeting minutes, elementary rhetorics of foreign and turing presentations and meeting minutes, elementary rhetorics of foreign and turing presentations and professional topics based on the language lead in the conversation and professional topics based on the language lead to distribute the presentation. Inguage - Russian 4	evel and study focus at the Faculty. on of own knowledge in oral and we ces. Developing perceptive and corgn language and practical applicates. Developing perceptive and corgn language and practical applicate evel and study focus at the Faculty. On of own knowledge in oral and we	Improve	ement of languagem. Work with (proceedings) Zutive skills, feedbar and technical and	e structure ack skills, registers ack skills	2 e knowledge l) text and its 2 summarising and their use 2 summarising and their use 2 e knowledge l) text and its
pattures. Practice of oral are in 15 JBN4 La cammar and stylistics. See and perceptive and communicatures. Practice of oral are cannot be active and content, structures an expension of management. See an expension of management and stylistics. See and perceptive and communicatures. Practice of oral are cannot be active and see and s	d written presentation. Inguage - German 4 ection of conversation and professional topics based on the language lead in the conversation and professional topics based on the language lead to discuss the conversation. Inguage - Russian 1 Industries Selection of conversation topics relating to transportation science turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and professional topics based on the language lead to discuss the language of the language of the language of Russian 4 ection of conversation and professional topics based on the language lead to the language of the langua	evel and study focus at the Faculty. on of own knowledge in oral and we ces. Developing perceptive and corgn language and practical applicates. Developing perceptive and corgn language and practical applicate evel and study focus at the Faculty. On of own knowledge in oral and we evel and study focus at the Faculty.	Improve ritten for munication, forn Improve ritten for Improve	ement of languagem. Work with (proceedings) Zutive skills, feedbar and technical and	e structure cofessional cack skills, registers cack skills, registers cack skills, registers cack skills, e structure cofessional	2 e knowledge 2 summarisin and their us 2 summarisin and their us 2 e knowledge b) text and it
reatures. Practice of oral are in 15 JBN4 La irammar and stylistics. See and perceptive and communicatures. Practice of oral are in 15 JBR2 La irammatical Structures and in 15 JBR2 La irammatical Structures and in 15 JBR3 La irammar and stylistics. See and perceptive and communicatures. Practice of oral are in 15 JBR4 La irammar and stylistics. See in 15 JBR4 La irammar and stylistics.	d written presentation. Inguage - German 4 ection of conversation and professional topics based on the language lead in the conversation and professional topics based on the language lead to discuss the presentation. Inguage - Russian 1 Industries Selection of conversation topics relating to transportation science turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and meeting minutes, elementary rhetorics of foreign turing presentations and professional topics based on the language lead written presentation. Inguage - Russian 4 ection of conversation and professional topics based on the language lead on the language lead of	evel and study focus at the Faculty. on of own knowledge in oral and we ces. Developing perceptive and corgn language and practical applicates. Developing perceptive and corgn language and practical applicate evel and study focus at the Faculty. On of own knowledge in oral and we evel and study focus at the Faculty.	Improve ritten for munication, forn Improve ritten for Improve	ement of languagem. Work with (proceedings) Zutive skills, feedbar and technical and	e structure cofessional cack skills, registers cack skills, registers cack skills, registers cack skills, e structure cofessional	2 e knowledge 2 summarisin and their us 2 summarisin and their us 2 e knowledge b) text and it

615J2S1 Language - Spanish 1	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	s, feedback skills	s, summarising
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and terms and terms of the structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and terms of the structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and terms of the structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and terms of the structuring presentations are structured as the structure of t	echnical register	s and their use,
language of management.		
615JBS2 Language - Spanish 2	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	s, feedback skills	s, summarising
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and ter	echnical register	s and their use,
language of management.		
615JBS3 Language - Spanish 3	Z	2
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level and study focus at the Faculty.	language struct	ure knowledge
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	with (profession	al) text and its
features. Practice of oral and written presentation.		
615JBS4 Language - Spanish 4	ZK	2
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level and study focus at the Faculty.	language struct	ure knowledge
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	with (profession	nal) text and its
features. Practice of oral and written presentation.		

List of courses of this pass:

Code	Name of the course	Completion	Credits
611STS	Stochastic Systems	Z,ZK	4
-	ls with the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction. ansportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian		
611XN1	Master Project 1	Z	2
611XN2	Master Project 2	Z	2
611XN3	Master Project 3	Z	1
611XN4	Master Project 4	Z	8
611XNDD	Master Thesis for study programme DS	Z	18
612BED	Road Safety Audit	Z,ZK	4
	cations of safety assessments (especially Road Safety Audit, Road Safety Inspection) during the process of preparations, and of the p Id minimize traffic accident risks for all those who take part in road traffic. Application of European Directive 2008/96/EC on road safet		
612DAZP	Transport and Environment	Z.ZK	4
-	he impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands.	,	l -
	parcel of this course.		,
612IDOS	Integrated Transport Systems	ZK	3
Reasons for buil	ding of integrated transport systems, principle of integration, dividing of integration methods, traffic, infrastructure, technical, organizat	ional methods, inte	egration of
	tariff, sales systems, information systems, marketing of system, examples of non-integration.		
612IKD	Rail Transport Infrastructure	Z,ZK	5
Non-compensated	lateral acceleration, parameters eduction for transition curve and cant transition, curves without straight, track spacing change. Track deta		Substructure
	design, slab track. Tram-train. Interoperability. Noise precautions. Railway line modernization for non-tilting and tilting trains		
612NAPI	Design and Maintenance of Transportation Structures	Z,ZK	4
Design and cons	truction of cement-concrete pavements and their maintenance. Construction of bridge objects, examples and choice of bridge constru and operation of tunnels.	ction materials. Co	onstruction
C1OTEAD	<u>'</u>	Z,ZK	7
612TEAP	Theory of Road Traffic Operation ers and their measurement, acquisition and processing. Road capacity analysis. Theoretical foundations and applications of mathema		
•	icroscopic traffic models. Theory of traffic management. Traffic light signals, roundabouts, coordination, public transport priority. Urban		
	Traffic excesses management. Road assessment and maintenance methods. Health risks assessment.	J .,	
612TKVP	Highway Engineering Materials	Z,ZK	4
	d construction - Material Aspects. The course emphasizes the development of road construction from the beginning of the 20th centu		ocusing on
	materials, understanding the production and placing of asphalt mixtures.		
612UMUP	Sustainable Mobility and Land - Use Planning	Z,ZK	5
	- objectives and tasks, development over time. Land-use planning tools. SUMP. Territorial and transport planning context. Ways of urb	•	
transport. Basic pr	inciples of the transport solution. The impact of transport on the size and shape of the city, on the development of the street and the so	quare and the road	ls. Solutions
	for pedestrian and bicycle transport. Suburbanization and transport. City economics.		_
612VRZ	High Speed Rail Transport	KZ	3
• .	y (HSR) transport characteristics and position in transportation system. Types / models of HSR systems, preparation of high speed rail is. Non-adhesion HSR systems. City and region traffic service by HSR. HSR operating points. HSR worldwide network. HSR routing a		
nepublic condition	of HSR track construction and layout track parameteres.	id traffic conception	ni. Specilics
612XN1	Master Project 1	Z	2
612XN2	Master Project 2	<u>Z</u>	2
612XN3	Master Project 2 Master Project 3	Z	1
612XN4	Master Project 4	Z	8
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612XNDD	Master Thesis for study programme DS	<u></u> 	18

612Y2KS	Rail Transport in Settlements and Regions	KZ	2
	d development of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway service: ttion of metro systems. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected cou		ration and
		KZ	2
612Y2MD	Methods of Traffic Regulation and Prediction		l .
Basic ways of traffic	prognosis, traffic prognosis for large area (calculation of future traffic volumes, calculation of future traffic volumes between areas (ana	-	tic methods,
	modal split, traffic distribution to road network). Shock wave in traffic flow. Service levels and their traffic volumes. Acceleration r		1
612ZSUZ	Railway Stations and Centres	Z,ZK	3
Equipment for pass	enger transport. Platform construction. Access roads to platforms. Modification of railway stations according to the TSI PRM. Station h	eads design. Varia	ant solutions
	of station heads for current ride. Junction stations. Crossing stations. Passenger stations. Moving stations. Public transport term	inals.	
614GISS	Geographical Information Systems	KZ	2
	n of saving format of space-oriented information land-survey and cartography minimum basic tasks of spatial operations principles of		ı
614XN1			
	Master Project 1	<u>Z</u>	2
614XN2	Master Project 2	Z	2
614XN3	Master Project 3	Z	1
614XN4	Master Project 4	Z	8
	· · · · · · · · · · · · · · · · · · ·		_
614XNDD	Master Thesis for study programme DS	Z	18
615J2A1	Language - English 1	Z	2
Grammatical Struc	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	feedback skills, su	ummarising
technical text conte	nt, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg	isters and their us	e, language
	of management.		
615J2F1	Language - French 1	Z	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		1
			•
lechnical text conte	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	fillical registers at	ia trieir use,
	language of management.		_
615J2l1	Language - Italian 1	Z	2
Grammatical Struc	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	feedback skills, su	ummarising
technical text conte	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	hnical registers ar	nd their use,
	language of management.		
615J2N1	Language - German 1	Z	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		l .
	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		
tooriiioar toxt conte	language of management.	miliodi rogiotoro di	ia trion acc,
045 1004			
615J2R1	Language - Russian 1	Z	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		
technical text conte	nt, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	hnical registers ar	nd their use,
	language of management.		
615J2S1	Language - Spanish 1	Z	2
Grammatical Struc	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	feedback skills, si	ummarising
technical text conte	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	hnical registers ar	nd their use,
	language of management.	ū	
615JBA2	Language - English 2	Z	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		
technical text conte	nt, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg	isters and their us	e, language
	of management.		_
615JBA3	Language - English 3	Z	2
Grammatical struc	tures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	feedback skills, su	ımmarising
technical text conte	nt, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg	isters and their us	e, language
	of management.		
615JBA4	Language - English 4	ZK	2
	tures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		1
	nt, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg		_
toormioan toxic oomio	of management.	iotoro arra aron ao	o, iai igaago
C4E IDEO	-		
615JBF2	Language - French 2	Z	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		_
technical text conte	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	nnıcal registers an	na their use,
	language of management.		
615JBF3	Language - French 3	Z	2
Grammar and styli	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	anguage structure	knowledge
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w	vith (professional)	text and its
	features. Practice of oral and written presentation.		
615JBF4	Language - French 4	ZK	2
	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of k		
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	mm (professional)	icki and ils
	features. Practice of oral and written presentation.		_
615JBI2	Language - Italian 2	Z	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		_
technical text conte	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	hnical registers an	nd their use,
	language of management.		

615JBI3	Language - Italian 3	Z	2
	ן itics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	-	_
•	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		•
	features. Practice of oral and written presentation.	(
615JBI4	Language - Italian 4	ZK	2
rammar and stylist	tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la		knowledg
nd perceptive and o	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	vith (professional)	text and it
	features. Practice of oral and written presentation.		
615JBN2	Language - German 2	Z	2
	ures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		
chnical text content	t, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	hnical registers a	nd their us
615JBN3	language of management. Language - German 3	Z	2
	ics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of k	-	_
	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		_
	features. Practice of oral and written presentation.		
615JBN4	Language - German 4	ZK	2
rammar and stylist	tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	anguage structure	knowledg
nd perceptive and o	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	vith (professional)	text and i
	features. Practice of oral and written presentation.		1
615JBR2	Language - Russian 2	Z	2
	res and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		
chnicai text conteni	t, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec language of management.	rinicai registers a	na meir us
615JBR3	Language - Russian 3	Z	2
	ا lics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	_	_
	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		_
<u> </u>	features. Practice of oral and written presentation.		
615JBR4	Language - Russian 4	ZK	2
Grammar and stylist	tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	anguage structure	knowledg
nd perceptive and o	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	vith (professional)	text and i
	features. Practice of oral and written presentation.		_
615JBS2	Language - Spanish 2	Z	2
	ures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		
chinical text content	t, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		
	language of management	illioai registers a	na then as
615 IBS3	language of management.		
615JBS3	Language - Spanish 3	Z	2
Grammar and stylist	Language - Spanish 3 ics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level and study focus at the Faculty.	Z anguage structure	2 knowledg
Grammar and stylist	Language - Spanish 3	Z anguage structure	2 knowledg
Grammar and stylist	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms and written presentation.	Z anguage structure	2 knowledg
Grammar and stylist and perceptive and of 615JBS4	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w	Z anguage structure vith (professional) ZK	2 knowledge text and it
Grammar and stylist and perceptive and of 615JBS4	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of laccommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms are presentation. Language - Spanish 4	Z anguage structure vith (professional) ZK anguage structure	2 e knowledg text and it
Grammar and stylist and perceptive and of 615JBS4 Grammar and stylist and perceptive and of 615JBS4	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms are resentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level and study focus at the Faculty.	Z anguage structure with (professional) ZK anguage structure with (professional)	2 e knowledg text and it
Grammar and stylist and perceptive and of 615JBS4 Grammar and stylist and perceptive and of 615XN1	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of the language level and study focus at the faculty.	Z anguage structure with (professional) ZK anguage structure with (professional)	2 e knowledg text and it
Grammar and stylist and perceptive and of 615JBS4 Grammar and stylist and perceptive and of 615 perceptive and 61	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation.	Z anguage structure with (professional) ZK anguage structure with (professional)	2 knowledg text and it 2 knowledg text and it
Grammar and stylist and perceptive and of 615JBS4 Grammar and stylist and perceptive and of 615XN1	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Master Project 1	Z anguage structure with (professional) ZK anguage structure with (professional)	2 e knowledg text and it 2 e knowledg text and it
Grammar and stylist and perceptive and of 615JBS4 Grammar and stylist and perceptive and of 615XN1 615XN2	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Master Project 1 Master Project 2	Z anguage structure with (professional) ZK anguage structure with (professional) Z Z	2 e knowledge text and it
615JBS4 615JBS4 615JBS4 615XN1 615XN2 615XN3 615XN4	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms and written presentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms and written presentation. Master Project 1 Master Project 2 Master Project 3 Master Project 4	Z anguage structure with (professional) ZK anguage structure with (professional) Z Z Z Z	2 e knowledge text and if
615JBS4 615JBS4 6rammar and stylist nd perceptive and of 615JBS4 6rammar and stylist nd perceptive and of 615XN1 615XN2 615XN3 615XN4 615XNDD	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms and written presentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Practice of oral and written presentation. Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis for study programme DS	Z anguage structure with (professional) ZK anguage structure with (professional) Z Z Z Z Z	2 e knowledge text and if
615JBS4 615JBS4 615JBS4 615XN1 615XN2 615XN3 615XN4 615XNDD 616PDP	Language - Spanish 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms and written presentation. Language - Spanish 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lacommunicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work vocabulary development. Basic stylistic forms and written presentation. Master Project 1 Master Project 2 Master Project 3 Master Project 4	Z anguage structure with (professional) ZK anguage structure with (professional) Z Z Z Z Z Z Z Z Z Z Z Z Z	2 knowledge text and i
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Grammar and stylist and perceptive and of the following of the stylist and perceptive and of the following of the following and perceptive and of the following	Language - Spanish 3 icics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of it communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Language - Spanish 4 icics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of it communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work of features. Practice of oral and written presentation. Master Project 1 Master Project 1 Master Project 2 Master Project 3 Master Project 3 Master Project 4 Master Thesis for study programme DS Principles of Vehicle Design tation vehicle according to its usage and function. Marketing and user demands. Vehicle dynamics. Propulsion systems. Design provehicle structure. Evaluation of variant concepts. Design phases. Realiability, technological aspects etc. Simulation and Testing of Vehicle Body and Systems omputing equipment for simulation. Modeling of mechanical and dynamic systems. Simulation and optimization methods. Hardware or vehicle design. Simulation of propulsion and electric systems. Strength and material analyses of dynamical phenomena for vehicle Master Project 1 Master Project 1 Master Project 2 Master Project 3 Master Project 3 Master Project 4 Master Thesis for study programme DS Transportation Planning and Modeling sused within four step model (trip generation, trip distribution, mode choice and trip distribution). Mobility and availability in urban a transportation planning and modelling. Technology of Railway Transport assessment, model operational situation with a system running time between IPT-nodes, calculation of traction energy savings comptiting crossing station, solving of capacity problem and blocking time in relation to train protection system, ro	Z anguage structure with (professional) ZK anguage structure with (professional) Z Z Z Z Z Z X Cess, functional of ZK in the Loop (HIL) les of on-land care Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	2 e knowledg text and it 3 experience and a second and a

617XN4	Master Project 4	Z	8
617XNDD	Master Thesis for study programme DS	Z	18
618GAZ	Geomechanics and Foundation Engineering	Z,ZK	3
Geology (basics of pertre	ographyand stratigraphy), mechanics of soils (classification of fundamental soils, mechanic properties of fundamental soils	s, permeability), planar	foundations
(footings, footers, plates	, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of dept	h foundations element	s, examples
	of their use, piles (classification, technology od performing).		T
618TEAM	Theoretical and Applied Mechanics	Z,ZK	4
	y of plasticity. Plasticity conditions. Elastoplastic and plastic states of cross-sections and beams. Reliability and durability o		and strain
	state around a notch. Stress intensity factor. Fracture toughness. Energy methods of linear fracture mechanics. Crack driv		
618TIK	Theory of Engineering Structures	Z,ZK	4
·	he knowledge gained in basic mechanics courses in bachelor study (especially Statics and Elasticity) in the field of mathem	-	
is placed on plane and	axisymmetric problems, as well as on the calculation of stress and strain in plates and shells. Students are further acquain behavior of subsoil used in the design of line structures.	itea with methods of m	lodeling the
618XN1	Master Project 1	Z	2
618XN2	Master Project 2	Z	2
618XN3	Master Project 3	Z	1
618XN4	Master Project 4	Z	8
618XNDD	Master Thesis for study programme DS	Z	18
620XN1	Master Project 1	Z	2
620XN2	Master Project 2	Z	2
620XN3	Master Project 3	Z	1
620XN4	Master Project 4	Z	8
620XNDD	Master Thesis for study programme DS	Z	18
621XN1	Master Project 1	Z	2
621XN2	Master Project 2	Z	2
621XN3	Master Project 3	Z	1
621XN4	Master Project 4	Z	8
621XNDD	Master Thesis for study programme DS	Z	18
622AMMD	Measuring Methods Applied to Transportation	KZ	4
Geodetic location and te	echnical processing of traffic route with geodetic total station, GPS and photogrammetry, 3D scanning. Transport corridor so	etting out using geode	tic methods.
Detection and technical p	processing of several vehicle dynamic characteristics using high-speed cameras and accelerometers. It is a week course at	nd the terms are usual	y set in June
	and September - usually in examination period.		
622MSV	Modelling and Vehicle Movement Simulation	KZ	2
Principles and posibilities	of simulation tools with regards to vehicle movement analysis and vehicle crash analysis. Kinematic and dynamic modelling of	of vehicle/set of vehicle	s movement.
2227417	View conditions. Proposed road space passage. Processing of road 3D models.		
622XN1	Master Project 1	Z	2
622XN2	Master Project 2	Z	2
622XN3	Master Project 3	Z	1
622XN4	Master Project 4	Z	8
622XNDD	Master Thesis for study programme DS	Z	18

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