Study plan

Name of study plan: ME nav.komb.11/12

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page Garantor of the study branch: prof. Ing. Tomáš Zelinka, CSc.

Program of study: Technology in Transportation and Telecommunications

Type of study: Follow-up master combined

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: 103

The role of the block: Z

Code of the group: 1.S.NKME 11/12

Name of the group: 1.sem.nav.komb.ME od 11/12

Requirement credits in the group: In this group you have to gain 28 credits

Requirement courses in the group: In this group you have to complete 9 courses

Credits in the group: 28 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
12DZP	Transport and Environment Kristýna Neubergová	Z	2	2P+0C	Z	Z
13EVS	Economics of the Public Sector	KZ	2	2+0	Z	Z
13IEK	Engineering Economics	Z,ZK	7	12		Z
15J2A1	Language - English 1 Eva Rezlerová, Dana Boušová, Jitka He manová, Marie Michlová, Lenka Monková, Markéta Olehlová, Markéta Vojanová, Peter Morpuss, Barbora Horá ková	Z	2	0P+2C+10B	3 Z	Z
17LOGK	Logistics Chains	Z,ZK	7	12		Z
17PREP	Carrying Processes	KZ	2	2+0	Z	Z
17TSI	Technology of Road Transport Vít Janoš, Zden k Michl, Michal Drábek	KZ	2	2P+0C+8B	3 Z	Z
17TZE	Technology of Railway Transport Vít Janoš, Zden k Michl, Petr Fridrišek, Rudolf Vávra	ZK	2	2P+0C	Z	Z
11TER	Game Theory and Optimal Decision-Making Magdalena Hykšová Magdalena Hykšová (Gar.)	ZK	2	2P+0C+8B	B Z	Z

Characteristics of the courses of this group of Study Plan: Code=1.S.NKME 11/12 Name=1.sem.nav.komb.ME od 11/12

12DZP	Transport and Environment	Z	2
This course aims the	he impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demar	ds. The noise me	asury is part and
parcel of this cours	se.		
13EVS	Economics of the Public Sector	KZ	2
Economic and fina	ncial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assesment of	public projects (C	BA, MCA), tax
system of the R (direct and indirect taxes, Laffer curve), state budget, management of public projects a their economic efficiency assessment, way	of elaboration of	PPP projects,
funding from EU fu	inds.		
13IEK	Engineering Economics	Z,ZK	7
Wear and tear, lifet	time and their calculation, depretiation methods. Inventory and its optimization. Cost analysis and costing, problems of revenue ar	nd profit of busine	ss activities.
Financial sources	and financial management, diagnostics of economic activity. Structure of business plan, mathematical tools for assessment of pro	jects and risks of	an engineering
work, choice of opt	timal solution.		
15J2A1	Language - English 1	Z	2
Grammatical Struc	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk	tills, feedback skil	s, summarising
technical text conte	ent, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technica	I registers and the	eir use, languag
of management.			
17I OGK	Logistics Chains	7 7K	7

17PREP Carrying Processes Carrying traffic in transport. European right of access and transit in terms of commercial liability of operator. Ordering and contracting of carrying services. Intergovernmental conventions on international carriage. Passenger carriage. Freight carriage. Forwarding. Rights, duties and liabilities based on carriage contract. Intermodal carriage. 17TSI Technology of Road Transport ΚZ Legislative, operational, technical, logistic and safety conditions of road transport, basic transport technologies, special transport, international agreements, requirements on the parameters and specialization of transport, handling and loading/unloading means, maintenance, service and repairs of road vehicles, safety of road transport and choice of optimal transport unit. 17TZE ZK 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. Game Theory and Optimal Decision-Making 7K Decision-making theory, utility theory. Explicit form games, backward induction. Normal form games. Antagonistic conflict, matrix games. Repeated games, evolutionary game theory. Cooperative games without transferable payoffs. Cooperative games with transferable payoffs (imputation, core, Shapley value, nucleolus). Applications of game theory above all in economics and transportation. Code of the group: 2.S.NKME 11/12 Name of the group: 2.sem.nav.komb.ME od 11/12 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 8 courses Credits in the group: 22 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 Code Completion Credits Scope Semester Role members) Tutors, authors and guarantors (gar.) 15JBA2 Ζ 0P+2C+10B 2 L Language - English 2 Ζ 17KMD Z,ZK 6 2P+2C L **Quantitative Methods in Transport** Z 13MGD Z,ZK 3 2+1ı Z **Management of Transportation Systems** 14MTSY ΚZ 2 2+0 L 7 **Telecommunications Systems Management** 13SMK Ζ 2 2+0 L Strategic Marketing Ζ L 20SYDO ΚZ 3 **System Transport Strategy** 2+1Z ZK 2 2P+0C L 18TAM **Theoretical and Applied Mechanics** Ζ 11THRO ZK 2P+0C+8B Z **Queuing Theory** Characteristics of the courses of this group of Study Plan: Code=2.S.NKME 11/12 Name=2.sem.nav.komb.ME od 11/12 Language - English 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. 17KMD Quantitative Methods in Transport The course focuses on the issue of the use of undirected graphs tree type, planar graphs and their coloring. Further distribution problems, facility location problems are formulated and solved such as models of integer linear programming. Besides the use of exact methods there are described simple and also more sofisticated heuristics (metaheuristics) methods. Management of Transportation Systems Manager and his team, choice of team members, teamwork, leadership, training of communication and presentation skills of modern, operative and strategic planning and decision making, conflicts, motivation, decision support methods, organizing, organization structures, organization welfare, control, project management (focused on PPP), decision support systems in transportation (Highway Development and Management Tools). ΚZ 14MTSY Telecommunications Systems Management New trends in the area of e-communication services and relevant ecommunications networks, conditions and tools to provide optional set of services of required parameters based on hierarchal architecture of service management system (TMN). Positioning of broadband services, convergence trends leading to NGN. Financial criteria and tools as an integral part of providing service. 13SMK Strategic Marketing Marketing strategy, marketing mix tools, marketing consumer research, quantitative and qualitative research, information analysis, marketing communication, communication strategy, segmentation, placement, marketingového plan elaboration.

Complet overview of system sciences, system approach to information engineering, definition of system strategy, connections with scientific methodological base pf transportation; porccoesses of strategical thinkig, system of strategical management, application space of strategies with link to sustainable development, tools for mastering of strategies with support of geoinformatical enegineer technologies.

8TAM Theoretical and Applied Mechanics

Fundamentals of theory of plasticity. Plasticity conditions. Elastoplastic and plastic state of body. Reliability and durability of structures. The stress and strain state around the notch. Stress intensity factor. Fracture toughness. Energy methods of linear fracture mechanics. Crack driving force. Opening the crack. Fatigue properties of the material. Fatigue process.

Dimensioning of fatigue.

11THRO | Queuing Theory | ZK | 2
Discrete event process, definition, random distribution, and probability. Basic processes, process of revitalisation. Markov process, Markov models, Kendall classification, model M/M/1,

models M/M/n. Non-markovian models, model M/C/n, models G/G/n. Models with continuous flow. Service net, examples of Petri net. Computer simulation.

Code of the group: 3.S.NKME 12/13

Name of the group: 3.sem.nav.komb.ME 12/13

Requirement credits in the group: In this group you have to gain 25 credits

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

Credits in the group: 25

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
15DPS	Transportation Psychology	Z	2	2+0	Z	Z
13EEG	Economic of Transportation Energetic	KZ	3	2+0	Z	Z
13EDO	Economics of Transport	Z,ZK	6	2+2	Z	Z
15JBA3	Language - English 3 Eva Rezlerová, Dana Boušová, Jitka He manová, Marie Michlová, Lenka Monková, Markéta Olehlová, Markéta Vojanová, Peter Morpuss, Barbora Horá ková	Z	2	0P+2C+10B	Z	Z
14PPRP	Computer Aided Project Management Marek Kalika	KZ	2	0P+2C	L	Z
17PMD	Project Management in Transportation	Z,ZK	6	3+1	Z	Z
11STS	Stochastic Systems Šárka Jozová, Ivan Nagy, Evženie Uglickich, Pavla Pecherková Evženie Uglickich (Gar.)	Z,ZK	4	2P+2C+14B	Z	Z

Characteristics of the courses of this group of Study Plan: Code=3.S.NKME 12/13 Name=3.sem.nav.komb.ME 12/13 15DPS Transportation Psychology 2 Subject of psychology and its basic concepts. Information intake, decision-making and behaviour. Performance. Engineering psychology and vehicle construction. Psychological aspects of travel route and traffic conditions, accidents and traffic incidents. Selection and training of the staff. Work and leisure. Age as a factor in transport operation **Economic of Transportation Energetic** Propulsion, energetic and storage systems of vehicles, energy sources, traction-energetic properties, laws of vehicle motion, determination of energy consumption in given conditions, assessment of energetic requirements, traction-energetic concepts, technical, economic and social aspects, energetic rationalization, complexní assessment of traction energetic conceptions. Energetics of high speed railways. 13EDO **Economics of Transport** Z.ZK 6 Transport in the CR in the European and world context, transport funding in the CR, specifics of costing, legislation, functional efficiency of transport system, technical - economic characteristics of transport modes - forwarding ability, forwarding speed, economics of transport enterprise (microeconomics) - indicators according to modes of transport, economic approach. 15JBA3 Language - English 3 Ζ 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 14PPRP Computer Aided Project Management K7 2 What is the project? The basic terms a concepts of project management. Life cycle of the project and its phased approach. Analysis and specification of the assignment, activity definition, stages, objectives and measurability. Risk events and risk planning. Project change management during implementation. Preparation of the project outline (activities, restrictions, assignments, calendars etc.) Project planning and optimization - time, resources. 17PMD Project Management in Transportation Z,ZK Projects and project management, content and project leading, project process organization. Assessment criteria decision, technical and economical criteria. Criteria function and fulfillment of its components. Spatial development and decision making, building act. Financial instruments in project management, funding models, payment instruments. Spatial plans, EIA, selection proces, public commision. **11STS** Stochastic Systems

The subject deals with the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction. The results are illustrated on practical transportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian probabilistic approach.

Code of the group: 4.S.NKME 12/13

Name of the group: 4.sem.nav.komb. ME 12/13

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
15JBA4	Language - English 4 Markéta Olehlová, Barbora Horá ková	ZK	2	0P+2C+10B	L	Z

Characteristics of the courses of this group of Study Plan: Code=4.S.NKME 12/13 Name=4.sem.nav.komb. ME 12/13

15JBA4	Language - English 4	∣ ZK	2	ı			
Grammatical structures	and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative ski	lls, feedback skills	s, summarising	ı			
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.				ı			

Code of the group: XNDPMEK 12/13

Name of the group: Diplomová práce nav.komb.ME 12/13

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:

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
11XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
12XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
13XNDP	Master Thesis	KZ	18	0+20	L	Z
14XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
15XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
23XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
17XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
18XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
20XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
21XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
22XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
16XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z

Characteristics of the courses of this group of Study Plan: Code=XNDPMEK 12/13 Name=Diplomová práce nav.komb.ME 12/13

Ona. actorion	or the course of the group of classy fram cous-street mark 12, to main-sipremora pra-		,
11XNDP	Master Thesis	KZ	18
12XNDP	Master Thesis	KZ	18
13XNDP	Master Thesis	KZ	18
14XNDP	Master Thesis	KZ	18
15XNDP	Master Thesis	KZ	18
23XNDP	Master Thesis	KZ	18
17XNDP	Master Thesis	KZ	18
18XNDP	Master Thesis	KZ	18
20XNDP	Master Thesis	KZ	18
21XNDP	Master Thesis	KZ	18
22XNDP	Master Thesis	KZ	18
16XNDP	Master Thesis	KZ	18

Code of the group: XNSK 12/13

Name of the group: Seminá k DP 4.sem nav. komb. 12/13

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 1 course

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
11XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
12XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
13XN4K	Seminar for Diploma Thesis	Z	8	8	L	Z
14XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
16XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
23XN4K	Seminar for Diploma Thesis"	Z	8	8B	L	Z
17XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
18XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
20XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z

21XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
22XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z
15XN4K	Seminar for Diploma Thesis	Z	8	8B	L	Z

Characteristics of the courses of this group of Study Plan: Code=XNSK 12/13 Name=Seminá k DP 4.sem nav. komb. 12/13

11XN4K	Seminar for Diploma Thesis	Z	8
12XN4K	Seminar for Diploma Thesis	Z	8
13XN4K	Seminar for Diploma Thesis	Z	8
14XN4K	Seminar for Diploma Thesis	Z	8
16XN4K	Seminar for Diploma Thesis	Z	8
23XN4K	Seminar for Diploma Thesis"	Z	8
17XN4K	Seminar for Diploma Thesis	Z	8
18XN4K	Seminar for Diploma Thesis	Z	8
20XN4K	Seminar for Diploma Thesis	Z	8
21XN4K	Seminar for Diploma Thesis	Z	8
22XN4K	Seminar for Diploma Thesis	Z	8
15XN4K	Seminar for Diploma Thesis	Z	8

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 9

The role of the block: PV

Code of the group: W2-N 11/12

Name of the group: PVP nav.komb. od 11/12

Requirement credits in the group: In this group you have to gain 9 credits

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

Credits in the group: 9 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
17W2BU	Stock Market and Investment Companies	KZ	3	8	L	PV
17W2DT	Taxes and Fees in Transport and Telecommunications	KZ	3	8	L	PV
13W2DT	Taxes and Fees in Transport and Telecommunications	KZ	3	8	L	PV
17W2FM	Financing in Urban Mass Transportation	KZ	3	8B	Z	PV
15W2HS	Road Transport History Zuzana arská	KZ	3	8B	L	PV
13W2IM	Investment and Insurance Mathematics	KZ	3	8	L	PV
17W2KI	Capital Investment in Transportation and Telecommunications	KZ	3	8	L	PV
13W2MC	Management of Travel Services Transportation	KZ	3	8	Z	PV
13W2MV	Management of Transportation Quality	KZ	3	8	L	PV
13W2MZ	Environmental Management	KZ	3	8	Z	PV
15W2MS	Sociology for Managers	KZ	3	8B	Z	PV
13W2NU	Cost and Benefits of Transport Systems	KZ	3	8	L	PV
15W2OZ	Health Protection in Transportation and EU Eva Rezlerová, Petr Musil	KZ	3	8B	Z	PV
17W2P	Insurance Bussiness	KZ	3	8	L	PV
15W2PT	Food in Transportation Petr Musil	KZ	3	8B	L	PV
17W2PR	Carriage Processes	KZ	3	8	Z	PV
13W2PS	Case Studies in Transportation	KZ	3	8	Z	PV
17W2PS	Case Studies in Transportation	KZ	3	8B	Z	PV
17W2RS	Regional Transport - Mobility of Small Towns	KZ	3	8	Z	PV
15W2SR	Stylistics and Rhetorics	KZ	3	8B	Z	PV
17W2SK	Urban and Regional Rail Transit Systems Ji í Pospíšil	KZ	3	8B	L	PV
15W2TS	Technician and Contemporary Society Jan Feit	KZ	3	8B	L	PV

17W2RZ	Control of Transport Processes	KZ	3	8B	Z	PV			
Characteristics of the courses of this group of Study Plan: Code=W2-N 11/12 Name=PVP nav.komb. od 11/12									
17W2BU	Stock Market and Investment Companies				KZ	3			
	ne students to understand the financial and capital markets, especially the financial system, Investor liquidity. Investment companies, its types, management and performance measurin				=	-			
17W2DT	Taxes and Fees in Transport and Telecommunications				KZ	3			
	es of the Czech Republic, comparison with customs in the EU. Purpose and kinds of taxes, fu	undamental terms	s and tax cat			t, duties, state,			
	storic development of rates of taxation of natural individual, legal entity, VAT, consumption ta	ax.			1/7				
1 -	Taxes and Fees in Transport and Telecommunications es of the Czech Republic, comparison with customs in the EU. Purpose and kinds of taxes, fu storic development of rates of taxation of natural individual, legal entity, VAT, consumption ta		s and tax ca	I	KZ tional budge	3 t, duties, state,			
17W2FM	Financing in Urban Mass Transportation				KZ	3			
1	opment in Prague and other cities in the world. Building and operation of public tram, bus, a	-		-					
	opment in small towns. Particularities of investment and operation financing of individual UN issengers. Tourism & UMT. UMT typology & choice of optimum financing.	/IT types. Historic	and presen	t models of	UMT financii	ng. Transport			
15W2HS	Road Transport History				KZ	3			
Roads and road traffic	in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the					_			
	v. Development of road layout, geometric and construction layers. Beginning of modern road	civil engineering	. Developme	ent of road to	avelling in m	odern period.			
13W2IM	ctions, bridges and traffic control, development of road signs. Investment and Insurance Mathematics				KZ	3			
1	Investment and insurance mathematics fficient and real. Annuity, cash flow, present and future value. Debt amortization. Investment	assessment. Se	curity pricing	1		_			
	surance - risks, tariff groups, drivers, premium. Basics of demography, life tables, commutation			=	-	-			
	nium, gross premium, premium reserves.								
17W2KI	Capital Investment in Transportation and Telecommunications then desicion making - long term goals and investment strategies, long term financing.				KZ	3			
13W2MC	Management of Travel Services Transportation				KZ	3			
	e tourist trade, transport services, accomodation services, catering services, guide sevices, s	spa services, orga	anization and	1		-			
and specifics of service	es in the tourist trade.								
13W2MV	Management of Transportation Quality			I	KZ	3			
1 -	standards and quality standardization, quality management systems, quality managementin t nd monitoring, statistics in quality management, improving, focus on the customer.	ransport and logi	stics, marke	ting and trar	nsport quality	, quality costs,			
13W2MZ	Environmental Management				KZ	3			
	ncepts (difference between the environment and ecology, ecosystems, sustatinable develop	oment). Main way	s of environ		I	-			
1	s of environment protection, the development of the environmental policy, its strategy and ins	struments. Volunta	ary instrume	nts, their im	oortance and	classification.			
	important voluntary instruments in the practice.				1/7				
15W2MS Sociological approach	Sociology for Managers to a corporation. Corporation and its running - human role	and communicat	ion Corpora	l l	KZ ure and soci	3 al system			
	in free market economy. Corporate directorship, work groups, adaptation, strife, different rol				u.o u.iu ooo.	a. oyoto			
13W2NU	Cost and Benefits of Transport Systems				KZ	3			
	their history, externalities and their internalization, public goods, transport funding, assessn	· ·		=	=				
15W2OZ	kation, influence of transport constructions on public budgets, relation of transport and econd Health Protection in Transportation and EU	omic growth, imp	ortance of tr	ansport in a	KZ	economy. 3			
	nsportation in CR in the past and present. Conditions before 1989 and after, current legislat	ure, future prospe	ects. Harmo	 nisation of le		-			
· ·	al principles of health protection and support in selected EU countries.								
17W2P	Insurance Bussiness				KZ	3			
	history and progress. Insurance company, insurance - sorts. Risks and damages. Reinsuran	ice company, prin	ciple of rein		1/7				
15W2PT	Food in Transportation Fraction transportation and foodstuffs. The health risks. Hygienic safeguard. The practical ex	amples from the	Czech Reni	1	KZ	3 The issues of			
	and other railroad equipment. Legislation.		0200top1						
17W2PR	Carriage Processes				KZ	3			
	ability. Ordering and contracting of carriage. Intergovernmental conventions on international carriage.	-		_					
_	ability and rights based on carrying contract. Contractual carrying conditions. Guarantee of o COTERMS). Tariff and calculation of prices.	carrying contract	by more ope	erators. Inte	rnationally a	ccepted			
13W2PS	Case Studies in Transportation				KZ	3			
	cepts in transport, traffic impacts on the environment and national economy, problems of ene			-		-			
discussions, the lecture	t and macroeconomic development, investments in transport, the individual chapters will be es using practitioners	presented to stu	idents throug	gn case stud	dies and sub	sequent			
17W2PS	Case Studies in Transportation				KZ	3			
_	ussions on the topics - the impact of transport on the environment and the economy, energy,	, construction of t	ransport infr	1		_			
	current and the real issue, which solutions will have to think of each other. Each of them will	be represent and	other role (pu	ublic authori	ties, investor	s, carrier			
	groups, residents, etc.).			Г	K7	2			
17W2RS Basic terms, networks	Regional Transport - Mobility of Small Towns of railway and bus lines, alternative forms of regional transport, influence in regional transpor	rt in vicinity of hig	ı cities. solut		KZ enger and fr	3 eight transport			
	ated to regional transport, passenger transport safety in regions.		,	5. pass		. J			
15W2SR	Stylistics and Rhetorics			1	KZ	3			
	written expression as a means of human communication. Basic information about speech, a								
organs, voice training. L	anguage semantics, language syntactic and the pragmatic aspect. Creative thought and its	oral and written ex	xpression. P	ractice - cul	ivating the sl	kills of speech.			

T7W2SK Urban and Regional Rail Transit Systems
Factors influencing transport demand, modal-split, traffic flows distribution on public transit network. Line network optimization and configuration. Timetable designing and evaluation accenting integrated periodic timetable. Rolling stock circulation, staff and crew services optimization and their order to rosters. Framework legislation, non-barrier effects and preference of public transport. Marketing.

15W2TS Technician and Contemporary Society
KZ 3
Why to take off a hat in a room and open a door for a lady? Are there simple solutions? Science vs belief. Do we need to know or is it enough to turn on a PC? It must be true - it's on the Internet and in newspapers! What are the sights for? Interest in public affairs - a hangover from the past?

17W2RZ Control of Transport Processes
KZ 3

Theoretical bases, transport system, decomposition, factors influencing control, quality diagnosis, methods of control, systems for decision making support, risk of decision making,

Name of the block: Jazyky

Minimal number of credits of the block: 8

The role of the block: J

telematics.

Code of the group: JZ-N-11/12

Name of the group: Jazyk nav.1.- 4.sem. 11/12

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
15J2F1	Language - French 1 Eva Rezlerová, Irena Veselková	Z	2	0P+2C+10E	Z	J
15JBF2	Language - French 2	Z	2	0P+2C+10E	B L	J
15JBF3	Language - French 3 Eva Rezlerová, Irena Veselková	Z	2	0P+2C+10E	Z	J
15JBF4	Language - French 4 Irena Veselková	ZK	2	0P+2C+10E	L L	J
15J2N1	Language - German 1 Eva Rezlerová, Jana Štikarová	Z	2	0P+2C+10E	B Z	J
15JBN2	Language - German 2	Z	2	0P+2C+10E	B L	J
15JBN3	Language - German 3 Eva Rezlerová, Jana Štikarová	Z	2	0P+2C+10E	Z	J
15JBN4	Language - German 4 Eva Rezlerová, Jana Štikarová	ZK	2	0P+2C+10E	L L	J
15J2R1	Language - Russian 1 Eva Rezlerová, Marie Michlová	Z	2	0P+2C+10E	Z	J
15JBR2	Language - Russian 2	Z	2	0P+2C+10E	B L	J
15JBR3	Language - Russian 3 Eva Rezlerová, Marie Michlová	Z	2	0P+2C+10E	Z	J
15JBR4	Language - Russian 4 Marie Michlová	ZK	2	0P+2C+10E	L L	J
15J2S1	Language - Spanish 1 Eva Rezlerová, Nina Hricsina Puškinová	Z	2	0P+2C+10E	Z	J
15JBS2	Language - Spanish 2	Z	2	0P+2C+10E	B L	J
15JBS3	Language - Spanish 3 Eva Rezlerová, Nina Hricsina Puškinová	Z	2	0P+2C+10E	B Z	J
15JBS4	Language - Spanish 4 Nina Hricsina Puškinová	ZK	2	0P+2C+10E	L L	J

Characteristics of the courses of this group of Study Plan: Code=JZ-N-11/12 Name=Jazyk nav.1.- 4.sem. 11/12

onaractorictics c	this courses of this group of study frum cous-se it in the traine-sue it in the traine-sue it is in the study	-	
15J2F1	Language - French 1	Z	2
Grammatical Structure	s and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk	ills, feedback skill	s, summarising
technical text content,	structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and	I technical registe	rs and their use.
language of managem	ent.		
15JBF2	Language - French 2	Z	2
Grammatical Structure	s and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk	ills, feedback skill	s, summarising
technical text content,	structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and	I technical registe	rs and their use.
language of managem	ent.		
15JBF3	Language - French 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 structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation.

Language - French 4 Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation. Language - German 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 foreign language and practical application, formal and technical registers and their use, language of management. 15JBN2 Language - German 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 foreign language and practical application, formal and technical registers and their use, language of management. 15JBN3 Language - German 3 Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation. 15JBN4 Language - German 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 structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation. Language - Russian 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 foreign language and practical application, formal and technical registers and their use, language of management. 15JBR2 Language - Russian 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 foreign language and practical application, formal and technical registers and their use, language of management 15JBR3 Language - Russian 3 Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation. 15JBR4 Language - Russian 4 Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation. Language - Spanish 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 foreign language and practical application, formal and technical registers and their use, language of management. 15JBS2 Language - Spanish 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 foreign language and practical application, formal and technical registers and their use, language of management 15JBS3 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 structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation 15JBS4 ZK Language - Spanish 4 Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation.

List of courses of this pass:

Code	Name of the course	Completion	Credits
11STS	Stochastic Systems	Z,ZK	4
The subject deal	s with the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction. 🧵	The results are illus	strated on
practical tra	insportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian	probabilistic appro	ach.
11TER	Game Theory and Optimal Decision-Making	ZK	2
Decision-making tl	eory, utility theory. Explicit form games, backward induction. Normal form games. Antagonistic conflict, matrix games. Repeated gam	es, evolutionary ga	ame theory.
Cooperative game	es without transferable payoffs. Cooperative games with transferable payoffs (imputation, core, Shapley value, nucleolus). Application	s of game theory a	bove all in
	economics and transportation.		
11THRO	Queuing Theory	ZK	2
Discrete event prod	ess, definition, random distribution, and probability. Basic processes, process of revitalisation. Markov process, Markov models, Kend	all classification, m	odel M/M/1,
mode	ls M/M/n. Non-markovian models, model M/C/n, models G/G/n. Models with continuous flow. Service net, examples of Petri net. Com	puter simulation.	
11XN4K	Seminar for Diploma Thesis	Z	8

11XNDP	Master Thesis	KZ	18
12DZP	Transport and Environment	Z	2
This course aims	he impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands. I parcel of this course.	he noise measur	y is part ar
12XN4K	Seminar for Diploma Thesis	Z	8
12XNDP	Master Thesis	KZ	18
13EDO	Economics of Transport	Z,ZK	6
•	CR in the European and world context, transport funding in the CR, specifics of costing, legislation, functional efficiency of transport sy transport modes - forwarding ability, forwarding speed, economics of transport enterprise (microeconomics) - indicators according to n approach.	stem, technical -	
	Economic of Transportation Energetic etic and storage systems of vehicles, energy sources, traction-energetic properties, laws of vehicle motion, determination of energy corenergetic requirements, traction-energetic concepts, technical, economic and social aspects, energetic rationalization, complexní assess conceptions. Energetics of high speed railways.		
13EVS	Economics of the Public Sector	KZ	2
	eancial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assesment of puble (direct and indirect taxes, Laffer curve), state budget, management of public projects a their economic efficiency assessment, way of funding from EU funds.		
13IEK	Engineering Economics	Z,ZK	7
Wear and tear,	ifetime and their calculation, depretiation methods. Inventory and its optimization. Cost analysis and costing, problems of revenue and and financial management, diagnostics of economic activity. Structure of business plan, mathematical tools for assessment of projects work, choice of optimal solution.	profit of business	activities.
13MGD	Management of Transportation Systems	Z,ZK	3
-	team, choice of team members, teamwork, leadership, training of communication and presentation skills of modern, operative and stra, motivation, decision support methods, organizing, organization structures, organization welfare, control, project management (focuse systems in transportation (Highway Development and Management Tools).		
13SMK	Strategic Marketing	Z	2
Marketing strateg	, marketing mix tools, marketing consumer research, quanttative and qualitative research, information analysis, marketing communica segmentation, placement, marketingového plan elaboration.	tion, communicat	ion strateg
13W2DT	Taxes and Fees in Transport and Telecommunications	KZ	3
system of taxes a	nd fees of the Czech Republic, comparison with customs in the EU. Purpose and kinds of taxes, fundamental terms and tax categories. local and court fees. Historic development of rates of taxation of natural individual, legal entity, VAT, consumption tax.	National budget,	duties, stat
13W2IM	Investment and Insurance Mathematics	KZ	3
insurance. Casua	minal, efficient and real. Annuity, cash flow, present and future value. Debt amortization. Investment assessment. Security pricing. Basi ty insurance - risks, tariff groups, drivers, premium. Basics of demography, life tables, commutation functions. Capital life insurance, en insurance. Current premium, gross premium, premium reserves. Management of Travel Services Transportation of the tourist trade, transport services, accomodation services, catering services, guide sevices, spa services, organization and services	idowment, whole	life. Annuit
13W2MV	and specifics of services in the tourist trade. Management of Transportation Quality ent, standards and quality standardization, quality management systems, quality managementin transport and logistics, marketing and t	KZ	3 auality cost
13W2MZ	quality measurement and monitoring, statistics in quality management, improving, focus on the customer. Environmental Management	KZ	3
-	sic concepts (difference between the environment and ecology, ecosystems, sustatinable development). Main ways of environment det Ways of environment protection, the development of the environmental policy, its strategy and instruments. Voluntary instruments, their	erioration with lo	cal, regiona
	Application of the most important voluntary instruments in the practice.		
	Cost and Benefits of Transport Systems	KZ	3
nd global impact. 13W2NU Transport system MCA, CA, trans	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and syport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport	stems by the me rt in area, spatial	thods CBA economy.
13W2NU Transport system MCA, CA, trans 13W2PS Definition of bas relationship of	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and sy port taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport Case Studies in Transportation ic concepts in transport, traffic impacts on the environment and national economy, problems of energy and transport sustainability from transport and macroeconomic development, investments in transport, the individual chapters will be presented to students through case discussions, the lectures using practitioners.	rstems by the me rt in area, spatial KZ n an energy stan- se studies and su	thods CBA economy. 3 dpoint, the bsequent
13W2NU Transport system MCA, CA, trans 13W2PS Definition of bas relationship of	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and sy port taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport concepts in transport, traffic impacts on the environment and national economy, problems of energy and transport sustainability from transport and macroeconomic development, investments in transport, the individual chapters will be presented to students through cast discussions, the lectures using practitioners. Seminar for Diploma Thesis	rstems by the me rt in area, spatial KZ n an energy stan- se studies and su Z	thods CBA economy. 3 dpoint, the bsequent
13W2NU Transport system MCA, CA, trans 13W2PS Definition of bas relationship of	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and sy port taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport concepts in transport, traffic impacts on the environment and national economy, problems of energy and transport sustainability from transport and macroeconomic development, investments in transport, the individual chapters will be presented to students through cast discussions, the lectures using practitioners. Seminar for Diploma Thesis Master Thesis	rstems by the me rt in area, spatial KZ n an energy stan- se studies and su	thods CBA economy. 3 dpoint, the bsequent
13W2NU Transport system MCA, CA, trans 13W2PS Definition of bas relationship of 13XN4K 13XNDP 14MTSY lew trends in the	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and sy port taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport concepts in transport, traffic impacts on the environment and national economy, problems of energy and transport sustainability from transport and macroeconomic development, investments in transport, the individual chapters will be presented to students through cast discussions, the lectures using practitioners. Seminar for Diploma Thesis	rstems by the ment in area, spatial KZ In an energy stance studies and su Z KZ KZ KZ equired parameter	thods CBA economy. 3 dpoint, the bsequent 8 18 2 ers based of
13W2NU Transport system MCA, CA, trans 13W2PS Definition of bas relationship of 13XN4K 13XNDP 14MTSY Identify the shierarchal archite 14PPRP What is the pro	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and sy port taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport concepts in transport, traffic impacts on the environment and national economy, problems of energy and transport sustainability from transport and macroeconomic development, investments in transport, the individual chapters will be presented to students through cast discussions, the lectures using practitioners. Seminar for Diploma Thesis Master Thesis Telecommunications Systems Management area of e-communication services and relevant ecommunications networks, conditions and tools to provide optional set of services of recture of service management system (TMN). Positioning of broadband services, convergence trends leading to NGN. Financial criteria	rstems by the ment in area, spatial KZ In an energy stanties studies and su Z KZ KZ KZ equired parameter and tools as an KZ of the assignment	thods CBA economy. 3 depoint, the basequent 8 18 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
13W2NU Transport system MCA, CA, trans 13W2PS Definition of bas relationship of 13XN4K 13XNDP 14MTSY Identify the shierarchal archite 14PPRP What is the pro	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and sy port taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport concepts in transport, traffic impacts on the environment and national economy, problems of energy and transport sustainability from transport and macroeconomic development, investments in transport, the individual chapters will be presented to students through cast discussions, the lectures using practitioners. Seminar for Diploma Thesis Master Thesis Telecommunications Systems Management area of e-communication services and relevant ecommunications networks, conditions and tools to provide optional set of services of recture of service management system (TMN). Positioning of broadband services, convergence trends leading to NGN. Financial criteria of providing service. Computer Aided Project Management liect? The basic terms a concepts of project management. Life cycle of the project and its phased approach. Analysis and specification es, objectives and measurability. Risk events and risk planning. Project change management during implementation. Preparation of the	rstems by the ment in area, spatial KZ In an energy stanties studies and su Z KZ KZ KZ equired parameter and tools as an KZ of the assignment	thods CBA economy. 3 depoint, the basequent 8 18 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
13W2NU Transport system MCA, CA, trans 13W2PS Definition of bas relationship of 13XN4K 13XNDP 14MTSY New trends in the hierarchal archite 14PPRP What is the prodefinition, stage	Cost and Benefits of Transport Systems s and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and sy port taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport concepts in transport, traffic impacts on the environment and national economy, problems of energy and transport sustainability from transport and macroeconomic development, investments in transport, the individual chapters will be presented to students through cast discussions, the lectures using practitioners. Seminar for Diploma Thesis Master Thesis Telecommunications Systems Management area of e-communication services and relevant ecommunications networks, conditions and tools to provide optional set of services of recture of service management system (TMN). Positioning of broadband services, convergence trends leading to NGN. Financial criteria of providing service. Computer Aided Project Management leet? The basic terms a concepts of project management. Life cycle of the project and its phased approach. Analysis and specification es, objectives and measurability. Risk events and risk planning. Project change management during implementation. Preparation of the restrictions, assignments, calendars etc.) Project planning and optimization - time, resources.	rstems by the ment in area, spatial KZ In an energy stante se studies and su Z KZ KZ Required parameter and tools as an KZ of the assignment erroject outline (thods CBA economy. 3 depoint, the basequent 8 18 2 ers based contegral paint, activity activities,

15J2A1	Language - English 1	Z	2
	ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		- 1
technical text cont	ent, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg of management.	isters and their use	e, ianguage
15J2F1	Language - French 1	7	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	feedback skills, su	
technical text cont	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	hnical registers and	d their use,
	language of management.	_	
15J2N1	Language - German 1	Z	2
	ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		
tooriinaar toxt oorii	language of management.	imoar rogiotoro an	a trion doo,
15J2R1	Language - Russian 1	Z	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		- 1
technical text cont	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	hnical registers and	d their use,
15J2S1	language of management. Language - Spanish 1	7	2
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	feedback skills, su	
	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		- 1
	language of management.		
15JBA2	Language - English 2	Z	2
	ctures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg		٠ ١
teerimear text cont	of management.	isters and their use	, language
15JBA3	Language - English 3	Z	2
Grammatical stru	ctures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	feedback skills, su	mmarising
technical text cont	ent, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg	isters and their use	e, language
15JBA4	of management. Language - English 4	ZK	2
	tures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	l l	
	ent, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical reg		- 1
	of management.		
15JBF2	Language - French 2	Z	2
	ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		- 1
technical text cont	language of management.	illical registers all	u trieli use,
15JBF3	Language - French 3	Z	2
-	istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la		- 1
and perceptive ar	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	vith (professional) t	ext and its
15JBF4	features. Practice of oral and written presentation. Language - French 4	ZK	2
	istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	I	
	d 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.		
15JBN2	Language - German 2	Z	2 mmorioina
	ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		- 1
	language of management.		
15JBN3	Language - German 3	Z	2
	istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la		- 1
and perceptive ar	d 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.	vith (professional) t	ext and its
15JBN4	Language - German 4	ZK	2
	istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la		
and perceptive ar	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	with (professional) t	ext and its
		viti (professiorial) t	
45 1000	features. Practice of oral and written presentation.		
15JBR2	features. Practice of oral and written presentation. Language - Russian 2	Z	2 mmarising
Grammatical Stru	features. Practice of oral and written presentation.	Z feedback skills, su	mmarising
Grammatical Stru	features. Practice of oral and written presentation. Language - Russian 2 tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	Z feedback skills, su	mmarising
Grammatical Stru technical text cont 15JBR3	features. Practice of oral and written presentation. Language - Russian 2 ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and teclanguage of management. Language - Russian 3	Z feedback skills, su hnical registers and Z	mmarising d their use,
Grammatical Strutechnical text contact 15JBR3 Grammar and sty	features. Practice of oral and written presentation. Language - Russian 2 ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and teclanguage of management. Language - Russian 3 istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level.	Z feedback skills, su hnical registers and Z	mmarising d their use,
Grammatical Strutechnical text contact 15JBR3 Grammar and sty	features. Practice of oral and written presentation. Language - Russian 2 ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and technique of management. Language - Russian 3 istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lad communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we have a supplication of the language level of the language level.	Z feedback skills, su hnical registers and Z	mmarising d their use,
Grammatical Strutechnical text cont 15JBR3 Grammar and sty	features. Practice of oral and written presentation. Language - Russian 2 ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and teclanguage of management. Language - Russian 3 istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level.	Z feedback skills, su hnical registers and Z	mmarising d their use,
Grammatical Strutechnical text contechnical text	features. Practice of oral and written presentation. Language - Russian 2 ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and techniques of management. Language of management. Language - Russian 3 istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lad communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Language - Russian 4 istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of lad study.	Z feedback skills, su hnical registers and Z anguage structure I vith (professional) t ZK anguage structure I	mmarising d their use, 2 knowledge ext and its 2 knowledge
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and perceptive and	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w	ith (professional)	text and it
	features. Practice of oral and written presentation.		1
15JBS4	Language - Spanish 4	ZK	2
3rammar and stylis	tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	nguage structure	knowledge
and perceptive and	communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w	rith (professional)	text and it
	features. Practice of oral and written presentation.		
15W2HS	Road Transport History	KZ	3
Roads and road tra	ffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road t	ransport develop	ment during
st part of 20th cen	ury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of roa	d travelling in mo	dern perio
	History of road intercections, bridges and traffic control, development of road signs.		
15W2MS	Sociology for Managers	KZ	3
	pach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, its		_
	Iman's work position in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in c		
15W2OZ	Health Protection in Transportation and EU	KZ	3
	n transportation in CR in the past and present. Conditions before 1989 and after, current legislature, future prospects. Harmonisation		_
rieaitii protection i	members. Fundamental principles of health protection and support in selected EU countries.	or legislation wit	II Olliei LO
4.5\MODT		1/7	
15W2PT	Food in Transportation	KZ	3
ne nutrition policy.	Interaction transportation and foodstuffs. The health risks. Hygienic safeguard. The practical examples from the Czech Republic and	from the world. I	ne issues o
	dining cars, work trains and other railroad equipment. Legislation.		
15W2SR	Stylistics and Rhetorics	KZ	3
	nd written expression as a means of human communication. Basic information about speech, articulation, oral and written language.		
	g. Language semantics, language syntactic and the pragmatic aspect. Creative thought and its oral and written expression. Practice - c		
15W2TS	Technician and Contemporary Society	KZ	3
hy to take off a ha	t in a room and open a door for a lady? Are there simple solutions? Science vs belief. Do we need to know or is it enough to turn on	a PC? It must be	true - it's
	the Internet and in newspapers! What are the sights for? Interest in public affairs - a hangover from the past?		
15XN4K	Seminar for Diploma Thesis	Z	8
15XNDP	Master Thesis	KZ	18
16XN4K	*****	Z	8
	Seminar for Diploma Thesis		_
16XNDP	Master Thesis	KZ	18
17KMD	Quantitative Methods in Transport	Z,ZK	6
	on the issue of the use of undirected graphs tree type, planar graphs and their coloring. Further distribution problems, facility location		
solved such as mo	dels of integer linear programming. Besides the use of exact methods there are described simple and also more sofisticated heuristic	s (metaheuristic	s) methods
17LOGK	Logistics Chains	Z,ZK	7
17PMD	Project Management in Transportation	Z,ZK	6
Projects and proje	ct management, content and project leading, project process organization. Assessment criteria decision, technical and economical	•	nction and
	ponents. Spatial development and decision making, building act. Financial instruments in project management, funding models, payme		
•	EIA, selection proces, public commision.		
17PREP	Carrying Processes	KZ	2
	nsport. European right of access and transit in terms of commercial liability of operator. Ordering and contracting of carrying services. Ir		1
	ternational carriage. Passenger carriage. Freight carriage. Forwarding. Rights, duties and liabilities based on carriage contract. Interm	-	
		nodal carriage.	
17TQI	Technology of Poad Transport		2
17TSI	Technology of Road Transport	KZ	2
Legislative, opera	tional, technical, logistic and safety conditions of road transport, basic transport technologies, special transport, international agreen	KZ nents, requirement	nts on the
Legislative, opera	tional, technical, logistic and safety conditions of road transport, basic transport technologies, special transport, international agreen ecialization of transport, handling and loading/unloading means, maintenance, service and repairs of road vehicles, safety of road tra	KZ nents, requirement	nts on the
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Legislative, oper- parameters and spontage of the capacity for designing of fler	tional, technical, logistic and safety conditions of road transport, basic transport technologies, special transport, international agreed excialization of transport, handling and loading/unloading means, maintenance, service and repairs of road vehicles, safety of road transport unit. Technology of Railway Transport assessment, model operational situation with a system running time between IPT-nodes, calculation of traction energy savings compacting crossing station, solving of capacity problem and blocking time in relation to train protection system, robustness of timetable, sy paths, guidelines for centralised operational traffic control and management. Stock Market and Investment Companies	KZ nents, requirements, requirements, requirements, requirements, requirements, requirements, requirements, restern concept of KZ	this on the e of optimal 2 acture costs freight train 3
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17W2PS	Case Studies in Transportation	KZ	3
Simulation expert discu	ssions on the topics - the impact of transport on the environment and the economy, energy, construction of transport in	nfrastructure etc. The stude	nts will each
lesson presented one	e current and the real issue, which solutions will have to think of each other. Each of them will be represent another role	e (public authorities, investo	ors, carrier
	representative interest groups, residents, etc.).		
17W2RS	Regional Transport - Mobility of Small Towns	KZ	3
Basic terms, networks o	f railway and bus lines, alternative forms of regional transport, influence in regional transport in vicinity of big cities, solu	utions of passenger and fre	ight transport
	in regions, activities related to regional transport, passenger transport safety in regions.		
17W2RZ	Control of Transport Processes	KZ	3
Theoretical bases, tran	sport system, decomposition, factors influencing control, quality diagnosis, methods of control, systems for decision methods of control and systems for decision methods of control	aking support, risk of decis	sion making,
47\\(00\)	telematics.	1/7	
17W2SK	Urban and Regional Rail Transit Systems sport demand, modal-split, traffic flows distribution on public transit network. Line network optimization and configuration	KZ	3
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	Master Thesis	K7	18
17XNDP	Master Thesis Theoretical and Applied Mechanics	KZ 7K	18
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