Study plan

Name of study plan: LO nav.komb.13/14

Faculty/Institute/Others:
Department:
Branch of study guaranteed by the department: Welcome page
Garantor of the study branch:
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: XNDPLOK 13/14
Name of the group: Diplomová práce nav.komb.LO 13/14
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** *Evženie Uglickich* ***Evženie Uglickich*** *Evženie Uglickich (Gar.)*	KZ	18	0P+20C+70B	L	z
12XNDP	**Master Thesis**	KZ	18	0P+20C+70B	L	z
14XNDP	**Master Thesis** *Vít Fábera, Tomáš Brandejský, Mária Jánešová, Jan Zelenka*	KZ	18	0P+20C+70B	L	z
15XNDP	**Master Thesis**	KZ	18	0P+20C+70B	L	z
16XNDP	**Master Thesis**	KZ	18	0P+20C+70B	L	z
23XNDP	**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** *Vít Fábera, Vladimír Socha, Peter Vittek, Eva Endrizalová, Iveta Kameníková, Terézia Pilmannová, Andrej Lališ, Slobodan Stojić, Sébastien Lán, ...*	KZ	18	0P+20C+70B	L	z
22XNDP	**Master Thesis**	KZ	18	0P+20C+70B	L	z
17XNDP	**Master Thesis**	KZ	18	0P+20C+70B	L	z

Characteristics of the courses of this group of Study Plan: Code=XNDPLOK 13/14 Name=Diplomová práce nav.komb.LO 13/14

11XNDP	Master Thesis	KZ	18
12XNDP	Master Thesis	KZ	18
14XNDP	Master Thesis	KZ	18
15XNDP	Master Thesis	KZ	18
16XNDP	Master Thesis	KZ	18
23XNDP	Master Thesis	KZ	18
18XNDP	Master Thesis	KZ	18
20XNDP	Master Thesis	KZ	18
21XNDP	Master Thesis	KZ	18
22XNDP	Master Thesis	KZ	18
17XNDP	Master Thesis	KZ	18

Code of the group: XNSLOK 13/14

Name of the group: Seminář k DP nav.komb.LO 13/14
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
14XN4K	**Seminar for Diploma Thesis**	Z	8	8B	L	z
16XN4K	**Seminar for Diploma Thesis**	Z	8	8B	L	z
15XN4K	**Seminar for Diploma Thesis**	Z	8	8B	L	z
23XN4K	**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** *Vladimír Socha, Peter Vittek, Eva Endrizalová, Iveta Kameníková, Terézia Pilmannová, Andrej Lališ, Slobodan Stojić, Sébastien Lán, Tereza Topková, ...*	Z	8	8B	L	z
22XN4K	**Seminar for Diploma Thesis**	Z	8	8B	L	z
17XN4K	**Seminar for Diploma Thesis**	Z	8	8B	L	z

Characteristics of the courses of this group of Study Plan: Code=XNSLOK 13/14 Name=Seminář k DP nav.komb.LO 13/14

11XN4K	Seminar for Diploma Thesis	Z	8
12XN4K	Seminar for Diploma Thesis	Z	8
14XN4K	Seminar for Diploma Thesis	Z	8
16XN4K	Seminar for Diploma Thesis	Z	8
15XN4K	Seminar for Diploma Thesis	Z	8
23XN4K	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
17XN4K	Seminar for Diploma Thesis	Z	8

Code of the group: 1.S.NKLO 13/14
Name of the group: 1.sem.nav.komb.LO 13/14
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
17DLOK	**Transport Logistics**	Z,ZK	5	10	Z	z
15J2A1	**Language - English 1** *Markéta Musilová, Jitka Heřmanová, Marie Michlová, Lenka Monková, Markéta Vojanová, Peter Morpuss, Jan Feit, Eva Rezlerová*	Z	2	0P+2C+10B	Z	z
17LOGK	**Logistics Chains**	Z,ZK	7	12		z
17MAFI	**Principles of Managerial Finance**	KZ	3	2+1	Z	z
17MP	**International Carriage**	ZK	3	2+0	Z	z
17SIR	**System Analysis and Decision Making**	KZ	2	2+0	Z	z
17TSI	**Technology of Road Transport** *Vít Janoš, Michal Drábek*	KZ	2	2P+0C+8B	Z	z
17TZE	**Technology of Railway Transport**	ZK	2	2P+0C	Z	z
11TER	**Game Theory and Optimal Decision-Making** *Magdalena Hykšová* ***Magdalena Hykšová*** *Magdalena Hykšová (Gar.)*	ZK	2	2P+0C+8B	Z	z

Characteristics of the courses of this group of Study Plan: Code=1.S.NKLO 13/14 Name=1.sem.nav.komb.LO 13/14

17DLOK	Transport Logistics	Z,ZK	5
Transport policy of European Union, Czech Republic, counties and municipalities. Vehicles, transport infrastructure and technology, management and information systems in transport and logistics, legal framework and the people in the transport system. Transport service, transport logistics optimization methodology, progressive transportation systems and the use of telematics applications in transport logistics.			
15J2A1	Language - English 1	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			
17LOGK	Logistics Chains	Z,ZK	7
17MAFI	Principles of Managerial Finance	KZ	3
Introduction of finance. Present value and alternative cost of capital. Investment efficienty evaluation. NPV, IRR. Capital assets pricing models, basics of portfolio theory. Bonds and stock price. Model with constant growth. Expected return and standard deviation of portfolio. Risk free return. Market portfolio. Securities line. Portfolio with maximal return. Short term finance. Cash flow management.			
17MP	International Carriage	ZK	3
The international transport organizations at government level, at enterprise level, implementation of international relations. Mission east-west UIC. Agreement on international carriage by rail SMPS and SMGS. Vienna convention on the law for the road, the Budapest convention on the contract of carriage, the UN convention on maritime transport of goods, international multimodal transport, the charter on transport, the foundations of EU law.			
17SIR	System Analysis and Decision Making	KZ	2
System approach, phases of solution. Decision processes, basic terms, classification, scales. Decision under risk and uncertainty, methods, applications. Decision with multiple objectives, weight determination. Multiple objective evaluation of variants. Vector optimization. Stochastic programming - active and passive methods. Expert methods, organisation, assessment. Advanced decision methods - fuzzy logic, genetic algorithms, chaos theory.			
17TSI	Technology of Road Transport	KZ	2
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	Technology of Railway Transport	ZK	2
Track line capacity assesment, 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.			
11TER	Game Theory and Optimal Decision-Making	ZK	2
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.NKLO 13/14
Name of the group: 2.sem.nav.komb.LO 13/14
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:

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
15JBA2	**Language - English 2** *Markéta Musilová, Jitka Heřmanová, Marie Michlová, Lenka Monková, Markéta Vojanová, Peter Morpuss, Jan Feit, Eva Rezlerová*	Z	2	0P+2C+10B	L	z
17KVAD	**Quantitative Methods in Transport**	Z,ZK	4	2+1	L	z
23MAR	**Risk Analysis and Management**	Z,ZK	3	2P+1C+10B	L	z
17MGD	**Management of Transport Systems**	Z,ZK	3	2P+1C+8B	L	z
14MTSY	**Telecommunications Systems Management**	KZ	2	2+0	L	z
17MIS	**Managerial Information Systems in Transportation**	ZK	3	2+0	L	z
20SYDO	**System Transport Strategy**	KZ	3	2+1	L	z
11THRO	**Queuing Theory** *Šárka Voráčová* ***Šárka Voráčová*** *Šárka Voráčová (Gar.)*	ZK	2	2P+0C+8B	L	z

Characteristics of the courses of this group of Study Plan: Code=2.S.NKLO 13/14 Name=2.sem.nav.komb.LO 13/14

15JBA2	Language - English 2	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			
17KVAD	Quantitative Methods in Transport	Z,ZK	4
Distribution tasks, models, methods, comparison, assignment tasks, models, methods, comparison, location tasks, discrete and continuous location, allocation, routing of vehicles, VRP, TSP, design fo networks and subnetworks in transportation systems, methods of network analysis in technology of transportation and logistics systems, principles of modelling.			
23MAR	Risk Analysis and Management	Z,ZK	3
Concept of risks and terms. Risk sources, definition of hazard, impacts and risks. Methods for identification, analysis, assessment and management of risks. Risk engineering targets and good engineering practice. Methods, tools and techniques for risk engineering. System of systems risk. Application of strategic and system approach for benefit of security and development. Territorial, emergency and crisis planning. Human factor - its role.			
17MGD	Management of Transport Systems	Z,ZK	3
Functions, processes and systems of management in transport, organisational structures, strategy, social responsibility, soft skills.			

14MTSY	Telecommunications Systems Management	KZ	2
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.			
17MIS	Managerial Information Systems in Transportation	ZK	3
Communication and information as a base of managerial skills. Information technology and their influence to managerial, communication and information porcess in trasport company. Obtaining of processing and transmission information. Information systems security. Possible threats to information systems. Create students design of transport company information portal.			
20SYDO	System Transport Strategy	KZ	3
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.			
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.NKLO 13/14
Name of the group: 3.sem.nav.komb.LO 13/14
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
12DZP	**Transport and Environment**	Z	2	2P+0C	Z	z
17EDO	**Economics of Transport**	Z,ZK	6	2+2	Z	z
15JBA3	**Language - English 3** *Markéta Musilová, Jitka Heřmanová, Marie Michlová, Lenka Monková, Markéta Vojanová, Peter Morpuss, Jan Feit, Eva Rezlerová, Marek Tomeček, ...*	Z	2	0P+2C+10B	Z	z
23KRIO	**Crisis Management for Engineering Branches**	KZ	3	2P+0C	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** *Evženie Uglickich, Pavla Pecherková, Michal Matowicki, Raissa Likhonina Evženie Uglickich (Gar.)*	Z,ZK	4	2P+2C+14B	Z	z

Characteristics of the courses of this group of Study Plan: Code=3.S.NKLO 13/14 Name=3.sem.nav.komb.LO 13/14

12DZP	Transport and Environment	Z	2
This course aims the impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands. The noise measury is part and parcel of this course.			
17EDO	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	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Optional courses for certificates FCE, CAE.			
23KRIO	Crisis Management for Engineering Branches	KZ	3
Human system. Assets, terms, concept and safety management aims. Causes and consequences of disasters. Safety management. Crisis management-its aims, demands, roles, principles, specifics and comparidon with the EU and NATO. Organisational, personal, legislative, finance, material and technical provision. The IZS role. Planning. Protection of public and critical infrastructure. Problem solving.			
14PPRP	Computer Aided Project Management	KZ	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	6
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	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 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.NKLO 13/14
Name of the group: 4.sem.nav.komb.LO 13/14

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:

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
15JBA4	**Language - English 4** *Markéta Musilová, Jitka Heřmanová, Marie Michlová, Lenka Monková, Markéta Vojanová, Peter Morpuss, Jan Feit, Eva Rezlerová, Marek Tomeček, ...*	ZK	2	0P+2C+10B	L	Z

Characteristics of the courses of this group of Study Plan: Code=4.S.NKLO 13/14 Name=4.sem.nav.komb.LO 13/14

15JBA4	Language - English 4	ZK	2

Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Optional courses for certificates FCE, CAE.

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-NKLO 13/14
Name of the group: PVP nav.komb.LO 13/14
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
17W2FM	**Financing in Urban Mass Transportation**	KZ	3	8B	Z	PV
15W2HS	**Road Transport History** *Eva Rezlerová, Zuzana Čarská*	KZ	3	8B	L	PV
17W2KI	**Capital Investment in Transportation and Telecommunications**	KZ	3	8	L	PV
21W2LS	**Air Traffic Services**	KZ	3	8B	L	PV
17W2MV	**Management of Transportation Quality**	KZ	3	8	L	PV
15W2MS	**Sociology for Managers** *Eva Rezlerová, Martina Šmidochová*	KZ	3	8B	Z	PV
21W2MK	**Marketing of Air Transport**	KZ	3	8	L	PV
21W2MS	**Aerospace Engineering Simulation and Modelling**	KZ	3	8B	Z	PV
17W2NU	**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
15W2PT	**Food in Transportation** *Eva Rezlerová, Petr Musil*	KZ	3	8B	L	PV
21W2PP	**Law and Operation in Air Transport**	KZ	3	8B	L	PV
21W2PL	**Operational Aspects of Aerodromes** *Viktor Sýkora **Viktor Sýkora***	KZ	3	8B	Z	PV
17W2PR	**Carriage Processes**	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
17W2RZ	**Control of Transport Processes** *Daniel Pilát*	KZ	3	8B	Z	PV
15W2SR	**Stylistics and Rhetorics**	KZ	3	8B	Z	PV
17W2SK	**Urban and Regional Rail Transit Systems**	KZ	3	8B	L	PV
15W2TS	**Technician and Contemporary Society**	KZ	3	8B	L	PV
17W2TP	**Technological Prognoses in Transportation and Telecommunication**	KZ	3	8	L	PV
21W2TL	**Development Trends of Aircraft Construction**	KZ	3	8	Z	PV
21W2VA	**Selected Parts of Aerodynamics**	KZ	3	8	Z	PV

Characteristics of the courses of this group of Study Plan: Code=W2-NKLO 13/14 Name=PVP nav.komb.LO 13/14

17W2FM	Financing in Urban Mass Transportation	KZ	3
UMT history and development in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground building and operation. Other UMT types. UMT development in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models of UMT financing. Transport inspection and blind passengers. Tourism & UMT. UMT typology & choice of optimum financing.			
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 modern period, acceleration of road transport development during 1st part of 20th century. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road travelling in modern period. History of road intercections, bridges and traffic control, development of road signs.			
17W2KI	Capital Investment in Transportation and Telecommunications	KZ	3
Financial market, investment desicion making - long term goals and investment strategies, long temr financing.			
21W2LS	Air Traffic Services	KZ	3
Airspace structure in Czech Republic and other countries. Introduction and description of ATS units in Czech Republic. Practical examples of TWR, APP a ACC control. Procedural and radar control. Incidents caused or partially caused by ATS. History of ATS and Czech airspace.			
17W2MV	Management of Transportation Quality	KZ	3
Quality management, standards and quality standardization, quality management systems, quality managementin transport and logistics, marketing and transport quality, quality costs, quality measurement and monitoring, statistics in quality management, improving, focus on the customer.			
15W2MS	Sociology for Managers	KZ	3
Sociological approach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, its culture and social system. Human's work position in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in corporation.			
21W2MK	Marketing of Air Transport	KZ	3
Definition, purpose, evolution, stages and types of marketing. Marketing in air transportation. Marketing research. Market segmentation. Airlines marketing strategies. Airline Products. Yield management and revenues. Air transport market sales.			
21W2MS	Aerospace Engineering Simulation and Modelling	KZ	3
The course is designed as a set of exemplary tasks and problems based on practical aviation issues. The university degree mathematic skills and software applications usage will be necessary for successful figuring out. Both simple tasks, where students create own model themselves (e.g. in Matlab), and more complicated problems where professional developed tools will be applied.			
17W2NU	Cost and Benefits of Transport Systems	KZ	3
Transport systems and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and systems by the methods CBA, MCA, CA, transport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport in area, spatial economy.			
15W2OZ	Health Protection in Transportation and EU	KZ	3
Health protection in transportation in CR in the past and present. Conditions before 1989 and after, current legislature, future prospects. Harmonisation of legislation with other EU members. Fundamental principles of health protection and support in selected EU countries.			
15W2PT	Food in Transportation	KZ	3
The nutrition policy. Interaction transportation and foodstuffs. The health risks. Hygienic safeguard. The practical examples from the Czech Republic and from the world. The issues of dining cars, work trains and other railroad equipment. Legislation.			
21W2PP	Law and Operation in Air Transport	KZ	3
Development of aviation law. International conventions on civil aviation. International organisations and including of the Czech Republic in these organisations. EU legislation and civil aviation. Execution of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. Responsibilities of air carriers for passengers, luggage and cargo. The safe transport of dangerous goods.			
21W2PL	Operational Aspects of Aerodromes	KZ	3
Operational aspects of aerodromes. Location of aerodrome and orientation of runways. Requirements for apron. Capacity of airports runways and terminals. Operation under winter conditions. Firefighting units. Protection against unlawful interference. Local transport connection. Environmental protection.			
17W2PR	Carriage Processes	KZ	3
Carrier´s commercial liability. Ordering and contracting of carriage. Intergovernmental conventions on international carriage. Contract on passenger carriage. Contract on freight carriage. Forwarding contract. Liability and rights based on carrying contract. Contractual carrying conditions. Guarantee of carrying contract by more operators. Internationally accepted commercial terms (INCOTERMS). Tariff and calculation of prices.			
17W2PS	Case Studies in Transportation	KZ	3
Simulation expert discussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure etc. The students will each lesson presented one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (public authorities, investors, carrier representative interest groups, residents, etc.).			
17W2RS	Regional Transport - Mobility of Small Towns	KZ	3
Basic terms, networks of railway and bus lines, alternative forms of regional transport, influence in regional transport in vicinity of big cities, solutions of passenger and freight transport in regions, activities related to regional transport, passenger transport safety in regions.			
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, telematics.			
15W2SR	Stylistics and Rhetorics	KZ	3
Basic skills of oral and written expression as a means of human communication. Basic information about speech, articulation, oral and written language. Teaching to speak well-vocal organs, voice training. Language semantics, language syntactic and the pragmatic aspect. Creative thought and its oral and written expression. Practice - cultivating the skills of speech.			
17W2SK	Urban and Regional Rail Transit Systems	KZ	3
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?			
17W2TP	Technological Prognoses in Transportation and Telecommunication	KZ	3
The students will be analysing both the general forecasting studies (NASA, CIA) and forecasting in the segment of transport and telecommunications.			
21W2TL	Development Trends of Aircraft Construction	KZ	3
Historical and nowadays trends. Future scenarios. Space industry. Economy.			

21W2VA	Selected Parts of Aerodynamics	KZ	3

Real gases physical properties, atmosphere. Fundamentals of fluid dynamics. External and internal aerodynamics in aircraft applications.Wing sections, wings, airfoil cascades, lift, drag. Polar, ideal incompressible and compressible flows. Viscous flows. Boundary layer, stability, turbulence. Reynolds, Strouhal and Mach Numbers. Flows aircraft aerodynamics and light dynamics. Static and dynamic stability. Anoeurability. Aircraft performances.

Name of the block: Jazyky
Minimal number of credits of the block: 8
The role of the block: J

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

15J2F1	Language - French 1	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 foreign language and practical application, formal and technical registers and their use, language of management.

15JBF2	Language - French 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 foreign language and practical application, formal and technical registers and their use, language of management.

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.

15JBF4	Language - French 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.

15J2N1	Language - German 1	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 foreign language and practical application, formal and technical registers and their use, language of management.			
15JBN2	Language - German 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 foreign language and practical application, formal and technical registers and their use, language of management.			
15JBN3	Language - German 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.			
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.			
15J2R1	Language - Russian 1	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 foreign language and practical application, formal and technical registers and their use, language of management.			
15JBR2	Language - Russian 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 foreign language and practical application, formal and technical registers and their use, language of management.			
15JBR3	Language - Russian 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.			
15JBR4	Language - Russian 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.			
15J2S1	Language - Spanish 1	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 foreign language and practical application, formal and technical registers and their use, language of management.			
15JBS2	Language - Spanish 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 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	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 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 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.			
11TER	Game Theory and Optimal Decision-Making	ZK	2
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.			
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.			
11XN4K	Seminar for Diploma Thesis	Z	8
11XNDP	Master Thesis	KZ	18

12DZP	Transport and Environment	Z	2
This course aims the impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands. The noise measury is part and parcel of this course.			
12XN4K	Seminar for Diploma Thesis	Z	8
12XNDP	Master Thesis	KZ	18
14MTSY	Telecommunications Systems Management	KZ	2
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.			
14PPRP	Computer Aided Project Management	KZ	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.			
14XN4K	Seminar for Diploma Thesis	Z	8
14XNDP	Master Thesis	KZ	18
15J2A1	Language - English 1	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			
15J2F1	Language - French 1	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 foreign language and practical application, formal and technical registers and their use, language of management.			
15J2N1	Language - German 1	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 foreign language and practical application, formal and technical registers and their use, language of management.			
15J2R1	Language - Russian 1	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 foreign language and practical application, formal and technical registers and their use, language of management.			
15J2S1	Language - Spanish 1	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 foreign language and practical application, formal and technical registers and their use, language of management.			
15JBA2	Language - English 2	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			
15JBA3	Language - English 3	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Optional courses for certificates FCE, CAE.			
15JBA4	Language - English 4	ZK	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Optional courses for certificates FCE, CAE.			
15JBF2	Language - French 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 foreign language and practical application, formal and technical registers and their use, language of management.			
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.			
15JBF4	Language - French 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.			
15JBN2	Language - German 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 foreign language and practical application, formal and technical registers and their use, language of management.			
15JBN3	Language - German 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.			
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.			
15JBR2	Language - Russian 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 foreign language and practical application, formal and technical registers and their use, language of management.			

15JBR3	Language - Russian 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.			
15JBR4	Language - Russian 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.			
15JBS2	Language - Spanish 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 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	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 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.			
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 modern period, acceleration of road transport development during 1st part of 20th century. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road travelling in modern period. History of road intercections, bridges and traffic control, development of road signs.			
15W2MS	Sociology for Managers	KZ	3
Sociological approach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, its culture and social system. Human's work position in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in corporation.			
15W2OZ	Health Protection in Transportation and EU	KZ	3
Health protection in transportation in CR in the past and present. Conditions before 1989 and after, current legislature, future prospects. Harmonisation of legislation with other EU members. Fundamental principles of health protection and support in selected EU countries.			
15W2PT	Food in Transportation	KZ	3
The nutrition policy. Interaction transportation and foodstuffs. The health risks. Hygienic safeguard. The practical examples from the Czech Republic and from the world. The issues of dining cars, work trains and other railroad equipment. Legislation.			
15W2SR	Stylistics and Rhetorics	KZ	3
Basic skills of oral and written expression as a means of human communication. Basic information about speech, articulation, oral and written language. Teaching to speak well-vocal organs, voice training. Language semantics, language syntactic and the pragmatic aspect. Creative thought and its oral and written expression. Practice - cultivating the skills of speech.			
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?			
15XN4K	Seminar for Diploma Thesis	Z	8
15XNDP	Master Thesis	KZ	18
16XN4K	Seminar for Diploma Thesis	Z	8
16XNDP	Master Thesis	KZ	18
17DLOK	Transport Logistics	Z,ZK	5
Transport policy of European Union, Czech Republic, counties and municipalities. Vehicles, transport infrastructure and technology, management and information systems in transport and logistics, legal framework and the people in the transport system. Transport service, transport logistics optimization methodology, progressive transportation systems and the use of telematics applications in transport logistics.			
17EDO	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.			
17KVAD	Quantitative Methods in Transport	Z,ZK	4
Distribution tasks, models, methods, comparison, assignment tasks, models, methods, comparison, location tasks, discrete and continuous location, allocation, routing of vehicles, VRP, TSP, design fo networks and subnetworks in transportation systems, methods of network analysis in technology of transportation and logistics systems, principles of modelling.			
17LOGK	Logistics Chains	Z,ZK	7
17MAFI	Principles of Managerial Finance	KZ	3
Introduction of finance. Present value and alternative cost of capital. Investment efficienty evaluation. NPV, IRR. Capital assets pricing models, basics of portfolio theory. Bonds and stock price. Model with constant growth. Expected return and standard deviation of portfolio. Risk free return. Market portfolio. Securities line. Portfolio with maximal return. Short term finance. Cash flow management.			
17MGD	Management of Transport Systems	Z,ZK	3
Functions, processes and systems of management in transport, organisational structures, strategy, social responsibility, soft skills.			
17MIS	Managerial Information Systems in Transportation	ZK	3
Communication and information as a base of managerial skills. Information technology and their influence to managerial, communication and information porcess in trasport company. Obtaining of processing and transmission information. Information systems security. Possible threats to information systems. Create students design of transport company information portal.			
17MP	International Carriage	ZK	3
The international transport organizations at government level, at enterprise level, implementation of international relations. Mission east-west UIC. Agreement on international carriage by rail SMPS and SMGS. Vienna convention on the law for the road, the Budapest convention on the contract of carriage, the UN convention on maritime transport of goods, international multimodal transport, the charter on transport, the foundations of EU law.			

17PMD	Project Management in Transportation	Z,ZK	6
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.			
17SIR	System Analysis and Decision Making	KZ	2
System approach, phases of solution. Decision processes, basic terms, classification, scales. Decision under risk and uncertainty, methods, applications. Decision with multiple objectives, weight determination. Multiple objective evaluation of variants. Vector optimization. Stochastic programming - active and passive methods. Expert methods, organisation, assessment. Advanced decision methods - fuzzy logic, genetic algorithms, chaos theory.			
17TSI	Technology of Road Transport	KZ	2
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	Technology of Railway Transport	ZK	2
Track line capacity assesment, 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.			
17W2FM	Financing in Urban Mass Transportation	KZ	3
UMT history and development in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground building and operation. Other UMT types. UMT development in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models of UMT financing. Transport inspection and blind passengers. Tourism & UMT. UMT typology & choice of optimum financing.			
17W2KI	Capital Investment in Transportation and Telecommunications	KZ	3
Financial market, investment desicion making - long term goals and investment strategies, long temr financing.			
17W2MV	Management of Transportation Quality	KZ	3
Quality management, standards and quality standardization, quality management systems, quality managementin transport and logistics, marketing and transport quality, quality costs, quality measurement and monitoring, statistics in quality management, improving, focus on the customer.			
17W2NU	Cost and Benefits of Transport Systems	KZ	3
Transport systems and their history, externalities and their internalization, public goods, transport funding, assessment of transport constructions and systems by the methods CBA, MCA, CA, transport taxation, influence of transport constructions on public budgets, relation of transport and economic growth, importance of transport in area, spatial economy.			
17W2PR	Carriage Processes	KZ	3
Carrier´s commercial liability. Ordering and contracting of carriage. Intergovernmental conventions on international carriage. Contract on passenger carriage. Contract on freight carriage. Forwarding contract. Liability and rights based on carrying contract. Contractual carrying conditions. Guarantee of carrying contract by more operators. Internationally accepted commercial terms (INCOTERMS). Tariff and calculation of prices.			
17W2PS	Case Studies in Transportation	KZ	3
Simulation expert discussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure etc. The students will each lesson presented one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (public authorities, investors, carrier representative interest groups, residents, etc.).			
17W2RS	Regional Transport - Mobility of Small Towns	KZ	3
Basic terms, networks of railway and bus lines, alternative forms of regional transport, influence in regional transport in vicinity of big cities, solutions of passenger and freight transport in regions, activities related to regional transport, passenger transport safety in regions.			
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, telematics.			
17W2SK	Urban and Regional Rail Transit Systems	KZ	3
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.			
17W2TP	Technological Prognoses in Transportation and Telecommunication	KZ	3
The students will be analysing both the general forecasting studies (NASA, CIA) and forecasting in the segment of transport and telecommunications.			
17XN4K	Seminar for Diploma Thesis	Z	8
17XNDP	Master Thesis	KZ	18
18XN4K	Seminar for Diploma Thesis	Z	8
18XNDP	Master Thesis	KZ	18
20SYDO	System Transport Strategy	KZ	3
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.			
20XN4K	Seminar for Diploma Thesis	Z	8
20XNDP	Master Thesis	KZ	18
21W2LS	Air Traffic Services	KZ	3
Airspace structure in Czech Republic and other countries. Introduction and description of ATS units in Czech Republic. Practical examples of TWR, APP a ACC control. Procedural and radar control. Incidents caused or partially caused by ATS. History of ATS and Czech airspace.			
21W2MK	Marketing of Air Transport	KZ	3
Definition, purpose, evolution, stages and types of marketing. Marketing in air transportation. Marketing research. Market segmentation. Airlines marketing strategies. Airline Products. Yield management and revenues. Air transport market sales.			
21W2MS	Aerospace Engineering Simulation and Modelling	KZ	3
The course is designed as a set of exemplary tasks and problems based on practical aviation issues. The university degree mathematic skills and software applications usage will be necessary for successful figuring out. Both simple tasks, where students create own model themselves (e.g. in Matlab), and more complicated problems where professional developed tools will be applied.			

21W2PL	Operational Aspects of Aerodromes	KZ	3
Operational aspects of aerodromes. Location of aerodrome and orientation of runways. Requirements for apron. Capacity of airports runways and terminals. Operation under winter conditions. Firefighting units. Protection against unlawful interference. Local transport connection. Environmental protection.			
21W2PP	Law and Operation in Air Transport	KZ	3
Development of aviation law. International conventions on civil aviation. International organisations and including of the Czech Republic in these organisations. EU legislation and civil aviation. Execution of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. Responsibilities of air carriers for passengers, luggage and cargo. The safe transport of dangerous goods.			
21W2TL	Development Trends of Aircraft Construction	KZ	3
Historical and nowadays trends. Future scenarios. Space industry. Economy.			
21W2VA	Selected Parts of Aerodynamics	KZ	3
Real gases physical properties, atmosphere. Fundamentals of fluid dynamics. External and internal aerodynamics in aircraft applications.Wing sections, wings, airfoil cascades, lift, drag. Polar, ideal incompressible and compressible flows. Viscous flows. Boundary layer, stability, turbulence. Reynolds, Strouhal and Mach Numbers. Flows aircraft aerodynamics and light dynamics. Static and dynamic stability. Anoeurability. Aircraft performances.			
21XN4K	Seminar for Diploma Thesis	Z	8
21XNDP	Master Thesis	KZ	18
22XN4K	Seminar for Diploma Thesis	Z	8
22XNDP	Master Thesis	KZ	18
23KRIO	Crisis Management for Engineering Branches	KZ	3
Human system. Assets, terms, concept and safety management aims. Causes and consequences of disasters. Safety management. Crisis management-its aims, demands, roles, principles, specifics and comparidon with the EU and NATO. Organisational, personal, legislative, finance, material and technical provision. The IZS role. Planning. Protection of public and critical infrastructure. Problem solving.			
23MAR	Risk Analysis and Management	Z,ZK	3
Concept of risks and terms. Risk sources, definition of hazard, impacts and risks. Methods for identification, analysis, assessment and management of risks. Risk engineering targets and good engineering practice. Methods, tools and techniques for risk engineering. System of systems risk. Application of strategic and system approach for benefit of security and development. Territorial, emergency and crisis planning. Human factor - its role.			
23XN4K	Seminar for Diploma Thesis¨	Z	8
23XNDP	Master Thesis	KZ	18

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