Study plan

Name of study plan: KOMBI bak. studium od 20-21 (specializace LOG, ne obor)

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: Bachelor combined

Required credits: 157
Elective courses credits: 23
Sum of credits in the plan: 180

Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 139

The role of the block: Z

Code of the group: 1S K LOG 20-21 P

Name of the group: 1. sem. bak. KOMBI specializace LOG 20-21 povinné p edm ty (specializace LOG, ne

obor)

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete 10 courses

Credits in the group: 30 Note on the group:

Note on the g	jioup.					
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
611CAL1	Calculus 1 Romana Zibnerová Ond ej Navrátil (Gar.)	Z,ZK	7	2P+4C+22E	B Z	Z
611LA	Linear Algebra Romana Zibnerová Romana Zibnerová Martina Be vá ová (Gar.)	Z,ZK	3	2P+1C+10E	B Z	Z
612ZYDK	Introduction to Transportation Engineering Dagmar Ko árková Dagmar Ko árková (Gar.)	Z,ZK	3	6B	Z	Z
618MTY	Materials Science and Engineering Vít Malinovský Jaroslav Valach (Gar.)	Z,ZK	3	2P+1C+10E	B Z	Z
611GIE	Geometry Vít Malinovský Šárka Vorá ová (Gar.)	KZ	3	2P+2C+12E	Z	Z
614ASD	Algorithm and Data Structures Jan Mejst ik	KZ	3	0P+2C+8E	B Z	Z
614KSP	Constructing with Computer Aid Libor Žídek	KZ	2	0P+2C+8E	B Z	Z
618TED	Technical Documentation Vít Malinovský Jitka ezní ková (Gar.)	KZ	2	1P+1C+8E	B Z	Z
615DPLG	Transportation Psychology Jana Štikarová	Z	2	2P+0C+6E	B Z	Z
616UDOP	Introduction into Vehicles Zuzana Radová Petr Bouchner (Gar.)	Z	2	2P+0C+8E	B Z	Z

Characteristics of the courses of this group of Study Plan: Code=1S K LOG 20-21 P Name=1. sem. bak. KOMBI specializace LOG 20-21 povinné p edm ty (specializace LOG, ne obor)

povining p cam ty	(openializate 200; ne ober)					
611CAL1	Z,ZK	7				
Sequence of real numbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Geometric properties of n-dimensional Euklidean space and						
Cartesian coordinate sy	Cartesian coordinate system. Geometric meaning of the differential of functions several real variables, differential calculus of functions of several real variables.					
611LA	Linear Algebra	Z,ZK	3			
Vector spaces (linear co	mbinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and	their solvability. D	eterminants and			
their applications. Scala	r product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification.					
612ZYDK	Introduction to Transportation Engineering	Z,ZK	3			
Role of transportation in	i land-use planning. Basic terms in transportation engineering. Traffic survey and traffic prognosis. Introduction to topic of road	s, public mass tra	nsport. Negative			
impacts of transportation	n to environment and safety					

618MTY	Materials Science and Engineering	Z,ZK	3
Basic course of materia	s science and engineering explains mechanical properties of structural materials based on their bonding forces and microstru	cture. However th	e main attention
is paid to metals as the	most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and	composites. Atten	tion is also paid
to degradation processe	s in materials, to defectoscopy and to main mechanical tests.		
611GIE	Geometry	KZ	3
Orthographic and obliqu	e projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - para	meterization, arc	of the curve,
torsion and curvature, F	renet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity and acceleration of a particle moving on a c	urved path.	
614ASD	Algorithm and Data Structures	KZ	3
Students will be familiar	zed with selected basic and derived data structures, algorithms, their properties and their design procedure. Students will anal	yze problems, pro	pose theoretical
solutions to the set task	and the resulting algorithm write by means of flowcharts, practice in reading algorithms recorded by means of the flowchart	and use the basic	s of Boolean
algebra with forming the	conditions for the algorithms.		
614KSP	Constructing with Computer Aid	KZ	2
"CAD systems" term de	ermination. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic common v	work rules in grap	hic applications
and CA systems. Co-ore	linated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting poss	ibilites, AutoCAD	environment
profiles, drawings with r	aster foundaments).		
618TED	Technical Documentation	KZ	2
			2
Technical standards, int	ernational standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimension		_
Technical standards, intarrangement of drawing			_
,			_
arrangement of drawing 615DPLG	sheets.	al and geometric	al accuracy,
arrangement of drawing 615DPLG Subject of psychology a	sheets. Transportation Psychology	al and geometrication Zonstruction. Psych	al accuracy,
arrangement of drawing 615DPLG Subject of psychology a	sheets. Transportation Psychology In the share of the s	al and geometrication Zonstruction. Psych	al accuracy,

Code of the group: 2S K LOG 20-21 P

of transport. Lifting equipment and conveyors. Legislation.

Name of the group: 2. sem. bak. KOMBI specializace LOG 20-21 povinné p edm ty (specializace LOG, ne obor)

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete 8 courses

Credits in the group: 30 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.) Calculus 2 611CAL2 Z,ZK 2P+3C+20B L Ζ Romana Zibnerová Romana Zibnerová Ond ej Navrátil (Gar.) **Statistics** 611STAT Z,ZK 2P+2C+12B L Pavel Provinský, Pavla Pecherková Pavla Pecherková Pavel Provinský 4 Ζ **Railway Lines and Stations** 612ZTS Z,ZK 4 2P+2C+10B L z Tomáš Javo ík, Ond ej Trešl Structural Analysis 618SAT Z,ZK 2P+2C+14B L Ζ Tomáš Doktor Daniel Kytý (Gar.) Systems Analysis 620SYSA Z,ZK 5 2P+2C+14B L Z Petr Bureš, Ji í R ži ka Zuzana B linová (Gar.) **Programming** 614PRG ΚZ 0P+2C+8B L Ζ Libor Žídek Transport Technology and Logistics 617TEDK ΚZ 4 12B L Ζ Michal Drábek Vít Janoš (Gar.) **Basics of Air Transport** 621ZALD ΚZ 0P+2C+8B L

	Ganab Trospouna			
Characteristics	of the courses of this group of Study Plan: Code=2S K LOG 20-21 P Name=2. sem. bak.	. KOMBI spe	cializace	LOG 20-2
ovinné p edm	ty (specializace LOG, ne obor)			
611CAL2	Calculus 2	Z	,ZK	5
Antiderivative, Newto	onian integral, Riemannian integral of the function of one variable, improper Riemannian integral, Riemannian integral ir	n Rn. Parametric	description	of regular
k-dimensional surfac	es in Rn, Riemannian integral over regular surfaces. Line and surface integrals of the second type, Stokes theorems, or	rdinary differentia	al equations	of the first
order, linear different	tial equations with constant coefficients and its systems.			
611STAT	Statistics	Z	,ZK	4
Definition of probabili	ity, random variable and its description, known distributions, random vector, function of random variable. Methods of point	estimation. Testin	ng of statistic	cal hypothesis
Regression and corre	elation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inferenc	e in linear regres	ssion, analys	sis of variance
multiple regression, t	the use of matrices in regression.			
612ZTS	Railway Lines and Stations	Z	,ZK	4
Rail transport. Railwa	ay track geometry parameters. Route layout of railway lines. Railway line construction - railway substructure and supers	tructure. Spatial	layout of rai	lway lines.
Railway control syste	ems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport.			
618SAT	Structural Analysis	Z	Z,ZK	4
General system of fo	orces in plane and space. Calculation of reactions of bodies and structures. Assessment of internal forces on statically d	leterminate bear	ns and simp	ole girders.
Principle of virtual wo	ork. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss co	onstructions. Cros	ss-sectional	characteristic
of planar shapes. Fib	per polygons and chains.			

620SYSA Systems Analysis Introduction to system sciences, system viewpoint, terminology, typical system analysis tasks, system identification, system interface and interface tasks, processes, system behaviour and its analysis, strong functions and processes, genetic code, system identity, system architecture. Tools for system analysis - Petri nets, decision tables, algorithms for structural tasks. Soft and hard systems, methods for soft system analysis Programming Algorithm development, methods of structured programming, high-level programming languages, basics of C programming languages (types, variables, conditions, cycles, arrays, functions), programming techniques, complexity. 617TEDK Transport Technology and Logistics Basic terms in transport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transport, organisation of traffic in each transport modus, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication using various transport modus. Basics of Air Transport History, definitions, terminology, basic rules. VFR/IFR. Basics of aerodynamics. Propulsion of aircraft. Aircraft design. Basics of navigation, radio navigation. Weight, balance, performance. Flight planning, optimization of speed and heights, minimum fuel. Limitations of operation, maintenance, service life of aircraft. Traffic management, ground handling, security. Air crew. Airlines and economics. Space technologies.

Code of the group: 3S K LOG 21-22 P

Name of the group: 3. sem. bak. KOMBI specializace LOG 21-22 povinné p edm ty (specializace LOG, ne obor)

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete 8 courses

Credits in the group: 30 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
611FYZ	Physics Goce Chadzitaskos Zuzana Malá (Gar.)	Z,ZK	5	2P+2C+18E	B Z	Z
612MDE	Transport Models and Transport Excesses Josef Kocourek, Tomáš Pad lek Josef Kocourek (Gar.)	Z,ZK	3	2P+1C+8E	B Z	Z
617TGA	Graph Theory and its Applications in Transport Alexandra Dvo á ková Denisa Mocková (Gar.)	Z,ZK	4	2P+2C+12E	B Z	Z
618PZP	Elasticity and Strength Tomáš Doktor Ond ej Jiroušek (Gar.)	Z,ZK	3	2P+1C+10E	Z	Z
620UITS	Introduction to Intelligent Transport Systems Vladimír Faltus Pavel Hrubeš (Gar.)	Z,ZK	7	3P+2C+20E	B Z	Z
612PPOK	Designing Roads, Highways and Motorways Tomáš Pad lek, Petr Kumpošt	KZ	3	1P+2C+10E	B Z	Z
614DATS	Database Systems Ond ej Smíšek Jana Kaliková (Gar.)	KZ	2	1P+1C+10E	B Z	Z
615JZ1A	Foreign Language - English 1 V ra Pastorková	Z	3	0P+4C+10E	3 Z	Z

611FYZ	Physics	Z,ZK	5
Kinematics, particle	dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics.		
612MDE	Transport Models and Transport Excesses	Z,ZK	3
	affic flow and methods for their measurement. Models of the traffic flow, communications load, line and urban systems. Theory of essment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the conse	•	•
617TGA	Graph Theory and its Applications in Transport	Z,ZK	4
Basic terms of graph	theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in o	ther scientific disci	olines.
618PZP	Elasticity and Strength	Z,ZK	3
•	ssion. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, t	poited and welded j	oint of structure
	n curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic for		analysis.
620UITS	Introduction to Intelligent Transport Systems	Z,ZK	7
620UITS Terminology and legis		Z,ZK information and tele	7 ecommunication
620UITS Terminology and legis	Introduction to Intelligent Transport Systems slative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of	Z,ZK information and tele	7 ecommunication
620UITS Terminology and legis systems for ITS. Prin principles of ITS. 612PPOK Definition, types, owr	Introduction to Intelligent Transport Systems slative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of ciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real exam	Z,ZK information and tele ples of possible ap KZ lard speed. Route in	7 ecommunication plications of the 3 n rural areas.
620UITS Terminology and legis systems for ITS. Prin principles of ITS. 612PPOK Definition, types, owr Range of vision for st intersections.	Introduction to Intelligent Transport Systems slative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of ciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real exam Designing Roads, Highways and Motorways nership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and stand	Z,ZK information and tele ples of possible ap KZ lard speed. Route in	7 ecommunication plications of the 3 n rural areas.
620UITS Terminology and legis systems for ITS. Prin principles of ITS. 612PPOK Definition, types, owr Range of vision for st intersections. 614DATS Basic concepts of da	Introduction to Intelligent Transport Systems slative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of ciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real exam Designing Roads, Highways and Motorways nership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and stand topping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. See the standard of the support of the standard of the support of the suppo	Z,ZK information and tele ples of possible ap KZ lard speed. Route in Safety device. Cross	7 ecommunication plications of the 3 n rural areas. sings, junctions
620UITS Terminology and legis systems for ITS. Prin principles of ITS. 612PPOK Definition, types, owr Range of vision for st intersections. 614DATS Basic concepts of da	Introduction to Intelligent Transport Systems slative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of ciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examination presents and properties and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examination properties and properties and properties and highways. Curve and transition curve. Sinuosity and stand topping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Sinuabase Systems Database Systems tabase systems, conceptual model, relational data model, the principles of normal forms, relational database design, security and standard properties and their operation. Fundamentals of ciples and ciples and ciples and ciples and ciples and ciples and ciples an	Z,ZK information and tele ples of possible ap KZ lard speed. Route in Safety device. Cross	7 ecommunication plications of the 3 n rural areas. sings, junctions

stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.

Code of the group: 4S K LOG 21-22 P

Name of the group: 4. sem. bak. KOMBI specializace LOG 21-22 povinné p edm ty

Requirement credits in the group: In this group you have to gain 26 credits

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

Credits in the group: 26 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
611MSP	Modeling of Systems and Processes Jana Kuklová, Bohumil Ková Bohumil Ková (Gar.)	Z,ZK	4	2P+2C+12B	L	Z
617ESYS	Transport Systems Economy Alexandra Dvo á ková Veronika Faifrová (Gar.)	Z,ZK	6	3P+2C+18B	L	Z
617LGT	Logistics Daniel Pilát Tomáš Horák (Gar.)	Z,ZK	6	3P+2C+18B	L	Z
617MDP	Transport prognostic methods Alena Rybi ková Alena Rybi ková (Gar.)	KZ	2	2P+0C+10B	L	Z
611LP	Linear Programming Šárka Vorá ová, Ivan Nagy Ivan Nagy Šárka Vorá ová (Gar.)	KZ	3	2P+1C+12B	L	Z
616DPO	Vehicle Technology Josef Mík Josef Mík (Gar.)	KZ	2	2P+0C+10B	L	Z
615JZ2A	Foreign Language - English 2 V ra Pastorková, Jan Feit	Z,ZK	3	0P+4C+10B	L	Z

Characteristics of the courses of this group of Study Plan: Code=4S K LOG 21-22 P Name=4. sem. bak. KOMBI specializace LOG 21-22 povinné p edm ty

·	Indicate system, external and internal system description, continuous and discrete system, mathematics as a tool, examples of form of nonlinear system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transation of continuous systems. System interconnection. YS Transport Systems Economy conomics, macroeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system. T Logistics definition, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information of economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparation of the problem of linear programming, transcription of some practical problems to the linear programming problems. Simplest, duality principle in linear programming, stability of solution of linear programming problem. Traffic problem. O Vehicle Technology Functions, principles. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety, heavy duty vehicle desing, dynamics. Rail transport, Safety, heavy duty vehicle desing dynamics. Safety transport. Safety	Z,ZK	4
System and subsys	ystem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formul	ation of differential and differ	ential equations.
Linear and nonline	ear system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transl	fer function. Stability of LTI s	systems.
Discretization of co	continuous systems. System interconnection.		
617ESYS	Transport Systems Economy	Z,ZK	6
		system and its quantification	n, rationalization
617LGT	Logistics	Z,ZK	6
Logistics definition	1 0	n and intelligent logistics sys	stems, logistics
city.			
0471400	Transport and an expectation of the de-	1/7	
617MDP	Iransport prognostic methods	KZ	2
-	, , , ,	1	differencies and
-	, , , ,	1	differencies and
The techniques of	f economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsio	1	differencies and
The techniques of indices. 611LP	f economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsio Linear Programming	on of statistical values using	3
The techniques of indices. 611LP Formulation of the	f economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsio Linear Programming problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex a	on of statistical values using	3
The techniques of indices. 611LP Formulation of the	f economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsio Linear Programming problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex a principle in linear programming, stability of solution of linear programming problem. Traffic problem.	on of statistical values using	3
System and subsystem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation of differential equations. Linear and nonlinear system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer function. Stability of LTI systems. Discretization of continuous systems. System interconnection. 617ESYS Transport Systems Economy Macroeconomics, macroeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system and its quantification, rationalization of transport system. 617LGT Logistics Capistics Capistics Capistics definition, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intelligent logistics systems, logistics city. 617MDP Transport prognostic methods Transport prognostic methods Transport prognostic methods Transport programming KZ Tansport programming Formulation of the problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex and convex polyedra. Simplex method, basic solutions, duality principle in linear programming, transcription of some practical problems. Traffic problem. 616DPO Vehicle Technology Vehicle Technology Vehicle Technology Vehicle Construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety, carriage design. Drive. Electric traction. Transshipment. Technological components of various modes of transport. Management and control of various means of transport. Safety. 615JZ2A Foreign Language - English 2			
The techniques of indices. 611LP Formulation of the solutions, duality p 616DPO Vehicle. Functions	f economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsio Linear Programming problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex a principle in linear programming, stability of solution of linear programming problem. Traffic problem. Vehicle Technology s, principles. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety	on of statistical values using KZ And convex polyedra. Simple	3 ex method, basic
The techniques of indices. 611LP Formulation of the solutions, duality p 616DPO Vehicle. Functions Transshipment. Te	f economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsio Linear Programming e problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex a principle in linear programming, stability of solution of linear programming problem. Traffic problem. Vehicle Technology s, principles. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety echnological components of various modes of transport. Management and control of various means of transport. Safety.	on of statistical values using KZ and convex polyedra. Simple KZ ty, carriage design. Drive. El	3 ex method, basic 2 lectric traction.
The techniques of indices. 611LP Formulation of the solutions, duality p 616DPO Vehicle. Functions Transshipment. Te: 615JZ2A	f economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsio Linear Programming e problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex a principle in linear programming, stability of solution of linear programming problem. Traffic problem. Vehicle Technology s, principles. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety echnological components of various modes of transport. Management and control of various means of transport. Safety.	on of statistical values using KZ and convex polyedra. Simple KZ ty, carriage design. Drive. El	3 ex method, basic 2 electric traction.

Code of the group: 5S K LOG 22-23 P

Name of the group: 5. sem. bak. KOMBI specializace LOG 22-23 povinné p edm ty

Requirement credits in the group: In this group you have to gain 23 credits

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

Credits in the group: 23

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
612ZPV	Railway Operation Martin Jacura Martin Jacura (Gar.)	Z,ZK	4	2P+1C+12B	Z	Z
617EPOD	Economics of Transport Company Alexandra Dvo á ková Veronika Faifrová (Gar.)	Z,ZK	6	4P+2C+18B	Z	Z
617TVD	Technology of Public Transport Michal Drábek Vít Janoš (Gar.)	Z,ZK	5	2P+2C+18B	Z	Z

614DMG	Datamining Ond ej Smíšek	KZ	2	0P+2C+10B	Z	Z	
617MAGD	Marketing Transport Alexandra Dvo á ková Petra Skolilová (Gar.)	KZ	4	2P+1C+12B	Z	Z	
623ZAP	Basics of Law Milena Macková	Z	2	2P+0C+10B	Z	z	

Characteristics of the courses of this group of Study Plan: Code=5S K LOG 22-23 P Name=5. sem. bak. KOMBI specializace LOG 22-23 povinné p edm ty

612ZPV	Railway Operation	Z,ZK	4
Legislation in railway tra	ınsport. Railway vehicles. Railway signals and signal devices. Railway traffic organisation and operation. Simplified railway tra	affic operation. Ra	ilway vehicles
hrakes Railway yehicles	e marking. Operation intervals. Theoretical graph of train rupping.		

617EPOD Economics of Transport Company

Z,ZK

6

Economy, marginal utility, marginal costs, function of supply and demand, market equilibrium, perfect competition and types of market arrangement. Transportation market, transport company, it's environment, balance sheet, costs, revenue, profit and maximalization of profit. Business plan, taxation in transport.

617TVD Technology of Public Transport

Z,ZK

5

The course contents a detailed description of new knowledge and basic principles of hierarchical planning of public transport system accenting the general transport planning and quantified transport demand. The course would be oriented on multiple and multi-level optimisation of passenger public transport system.

614DMG Datamining

K7

2

Types of data sources and knowledge, data warehouses and OLAP technology for data mining, data preprocessing in the process of knowledge acquisition systems for data mining, mining characteristics of concepts (classes), mining association rules from relational db. and data warehousing, classification (decisions tree, Bayesian cob., using neural networks). Prediction. Cluster analysis. Mining in complex structured data, multimedia dbf., www.

617MAGD Marketing Transport

K7

4

Development of strategic marketing plans, Implementation of marketing campaigns, Branding and brand promotion, Public relations – industry, business and vertical market, Website development, search engine optimization, Government relations and industry organization lobbying, Advertising and strategic sponsorships, Multimedia presentations and corporate videos, Direct marketing and related lead generation campaigns

Basics of Law

7

2

Basic orientation in the Czech legal system. The course is primarily intended to provide students with orientation in fundamentals of the Czech Republic, legal system and in various forms of law, including adoption of the basic principles of European Community law. The course consists of selected chapters from the public and private law and European Community law.

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 12

The role of the block: PV

Code of the group: PVP KOMBI LOG 21-22

Name of the group: PVP pro bak. KOMBI 21-22 pro specializaci LOG (B1041A040001)

Requirement credits in the group: In this group you have to gain 12 credits

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

Credits in the group: 12 Note on the group:

Note on the g	· •					
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
621W1BC	Aviation safety and security	KZ	4	8B	L	PV
615W1BO	Work Safety and Health Protection in Transportation Petr Musil	KZ	4	8B	L	PV
621W1BS	Unmanned aircraft systems 1 Jakub Kraus	KZ	4	8B	L	PV
617W1EV	Public Sector Economy	KZ	4	8B	Z	PV
614W1HW	Computer Hardware	KZ	4	8B	L	PV
615W1HE	Work Hygiene and Ergonomics in Traffic	KZ	4	8B	Z	PV
617W1LL	Logistics of Passenger and Freight Air Transportation	KZ	4	8B	L	PV
617W1MD	Marketing in Transportation	KZ	4	8B	Z	PV
621W1MP	Matlab for project-oriented study	KZ	4	8B	Z	PV
617W1OF	Personal Finance Alexandra Dvo á ková	KZ	4	8B	Z	PV
617W1PM	Personnel Management Stanislava Holíková	KZ	4	8B	L	PV
614W1PZ	Advanced Data Processing in Spreadsheets	KZ	4	8B	Z	PV
614W1PJ	C Programming Language	KZ	4	8B	Z	PV
616W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4	8B	L	PV
621W1RZ	Human Resources Management Šárka Václavíková	KZ	4	8B	L	PV

					r	
617W1ST	Titan Simulation	KZ	4	8B	L	PV
617W1SL	Sociology of Human Resources Stanislava Holíková	KZ	4	8B	Z	PV
617W1SK	Urban and Regional Rail Transport Systems	KZ	4	8B	L	PV
621W1TH	Aircraft Technical Handling	KZ	4	8B	Z	PV
614W1UP	Editing of Theses in MS Word	KZ	4	8B	L	PV

Characteristics of the courses of this group of Study Plan: Code=PVP KOMBI LOG 21-22 Name=PVP pro bak. KOMBI 21-22 pro

specializaci LOG (B1041A040001)		
621W1BC Aviation safety and security	KZ	4
History of safety and security development in aviation. Modern tools for safety and security management. Research and development of safe and security management.	I .	•
615W1BO Work Safety and Health Protection in Transportation	KZ	4
Fundamental legislative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation		-
health insurance of home and foreign business trips, statistics, working practice.	•	,
621W1BS Unmanned aircraft systems 1	KZ	4
Unmanned Aviation Development. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division	1 1	
procedures. Practical flights.		
617W1EV Public Sector Economy	KZ	4
Economic and financial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assessment of	- 1	BA, MCA, CEA),
tax system of the CR, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, fund		
614W1HW Computer Hardware	KZ	4
Computer architecture, basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and separate	ate parts designing -	- controllers,
arithmetic and logical units, I/O subsystem.		
615W1HE Work Hygiene and Ergonomics in Traffic	KZ	4
Basic knowledge of occupational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of the		of workers.
Creation and protection of working conditions that do not damage public health. Mutual links man-machine-environment. Adaptation of technology	to possibilities and	skills of man.
Practical examples from the field of transportation; relevant legislative.		
617W1LL Logistics of Passenger and Freight Air Transportation	KZ	4
Logistics airline passenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aeria	I transport process	passengers and
air cargo. Information systems in air transport. Global distribution systems.		
617W1MD Marketing in Transportation	KZ	4
General principles of marketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport	ort and the resulting	g differences in
the application of marketing.		
621W1MP Matlab for project-oriented study	KZ	4
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exer	cises will be prepar	ed according to
particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improve	ment of students' M	latlab skills.
617W1OF Personal Finance	KZ	4
Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financing of	housing (rent, mort	gage, savings,
consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability	and adequacy), se	curing the future
(retirement savings and insurance).		
(Total of the daying of the industries).		
617W1PM Personnel Management	KZ	4
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617W1PM Personnel Management	1 1	
617W1PM Personnel Management Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, intercent	ultural communicati	ion.
617W1PM Personnel Management Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, interced. 614W1PZ Advanced Data Processing in Spreadsheets Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of for addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional format	cultural communicati KZ mulas and functions	ion. 4 s, including
617W1PM Personnel Management Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, interced. 614W1PZ Advanced Data Processing in Spreadsheets Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of for	ultural communicati KZ mulas and functions	on. 4 s, including s, solver, macros,
617W1PM Personnel Management Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, interce 614W1PZ Advanced Data Processing in Spreadsheets Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of for addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional format data analysis. Examples and questions from various companies and training. 614W1PJ C Programming Language	ultural communicati KZ mulas and functionsting, solution finding	s, including , solver, macros,
617W1PM Personnel Management Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, interce 614W1PZ Advanced Data Processing in Spreadsheets Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of for addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional format data analysis. Examples and questions from various companies and training. 614W1PJ C Programming Language C programming language. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation	ultural communicati KZ mulas and functionsting, solution finding	on. 4 s, including s solver, macros,
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614W1UP Editing of Theses in MS Word

Students will be introduced to the principles of creating and editing large documents and basic typographic rules. They will properly apply styles, create tables of contents, lists of figures, tables, graphs, etc. Footnotes, captions, index. They practice corrections of finished documents. The goal is to prepare students for seamless editing dissertations and theses, so that they are able to concentrate mainly on writing a thesis.

Name of the block: Jazyky

Minimal number of credits of the block: 6

The role of the block: J

Code of the group: J 2 K (5.-6.SEM)

Name of the group: Jazyky KOMBI bak. pro 5. a 6. sem. (2.cizí jazyk) - pro B1041A040001

Requirement credits in the group: In this group you have to gain 6 credits

Requirement courses in the group: In this group you have to complete 2 courses

Credits in the group: 6 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
615JZ3F	Foreign Language - French 3	Z	3	0P+4C+10B	3 Z	J
615JZ3I	Foreign Language - Italian 3	Z	3	0P+4C+10B	B Z	J
615JZ3N	Foreign Language - German 3 René Skalický	Z	3	0P+4C+10B	B Z	J
615JZ3R	Foreign Language - Russian 3 Vilma Gottwaldová	Z	3	0P+4C+10B	B Z	J
615JZ3S	Foreign Language - Spanish 3	Z	3	0P+4C+10B	Z	J
615JZ4F	Foreign Language - French 4	Z,ZK	3	0P+4C+10B	L L	J
615JZ4I	Foreign Language - Italian 4	Z,ZK	3	0P+4C+10B	L	J
615JZ4N	Foreign Language - German 4 René Skalický, Sv tlana Petrová, Eva Rezlerová	Z,ZK	3	0P+4C+10B	B L	J
615JZ4R	Foreign Language - Russian 4 Vilma Gottwaldová	Z,ZK	3	0P+4C+10B	B L	J
615JZ4S	Foreign Language - Spanish 4	Z,ZK	3	0P+4C+10B	B L	J

Characteristics of the courses of this group of Study Plan: Code=J 2 K (5.-6.SEM) Name=Jazyky KOMBI bak. pro 5. a 6. sem. (2.cizí jazyk) - pro B1041A040001

615JZ3F Foreign Language - French 3

Ζ 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.

615JZ3I Foreign Language - Italian 3 Ζ

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.

615JZ3N Foreign 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.

615JZ3R Foreign 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.

| Foreign Language - Spanish 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

615JZ4F Foreign 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.

Foreign Language - Italian 4 615JZ4I

Z,ZK

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.

615JZ4N Foreign Language - German 4

Z,ZK

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.

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Grammar and stylistics. Selection of conversa	sation and professional topics based on the language level and study focus at the Faculty. Improvement of language struct	e knowledge
615JZ4S Foreign Langua	age - Spanish 4 Z,ZK	3
features. Practice of oral and written presenta		,
-	ocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (profession	-
1	sation and professional topics based on the language level and study focus at the Faculty. Improvement of language struct	_
615JZ4R Foreign Langua	age - Russian 4 Z,ZK	3

Code	Name of the course	Completion	Credits
611CAL1	Calculus 1	Z,ZK	7
Sequence of real n	umbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Geometric properties of n-dim	ensional Euklidear	n space and
Cartesia	an coordinate system. Geometric meaning of the differential of functions several real variables, differential calculus of functions of several real variables.	eral real variables	
611CAL2	Calculus 2	Z,ZK	5
Antiderivative, No	ewtonian integral, Riemannian integral of the function of one variable, improper Riemannian integral, Riemannian integral in Rn. Para	metric description	of regular
k-dimensional su	rfaces in Rn, Riemannian integral over regular surfaces. Line and surface integrals of the second type, Stokes theorems, ordinary diff order, linear differential equations with constant coefficients and its systems.	erential equations	of the first
611FYZ	Physics	Z,ZK	5
	Kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics.	_,	
611GIE	Geometry	KZ	3
	l oblique projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - param	eterization, arc of	the curve,
torsion	and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity and acceleration of a particle moving	g on a curved path	
611LA	Linear Algebra	Z,ZK	3
Vector spaces (line	nar combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and the	,	ninants and
	their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classifications	on.	
611LP	Linear Programming	KZ	3
	problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex and convex po solutions, duality principle in linear programming, stability of solution of linear programming problem. Traffic problem.		ethod, basic
611MSP	Modeling of Systems and Processes	Z.ZK	4
	tem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation of differe	, ,	al equations.
Linear and non	linear system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer function	n. Stability of LTI s	ystems.
	Discretization of continuous systems. System interconnection.		
611STAT	Statistics	Z,ZK	4
Definition of probab	lility, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. I		hypothesis.
Regression and co	rrelation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear re	gression, analysis	of variance,
	multiple regression, the use of matrices in regression.		
612MDE	Transport Models and Transport Excesses	Z,ZK	3
Parameters of the	traffic flow and methods for their measurement. Models of the traffic flow, communications load, line and urban systems. Theory of qu	eues, shock wave	s. Quality of
transport and its a	assessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the consequing safety and fluency.	ences. Improving o	f transport
612PPOK	Designing Roads, Highways and Motorways	KZ	3
	ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safet intersections.		
612ZPV	Railway Operation	Z,ZK	4
Legislation in raily	vay transport. Railway vehicles. Railway signals and signal devices. Railway traffic organisation and operation. Simplified railway traffi brakes. Railway vehicles marking. Operation intervals. Theoretical graph of train running.	c operation. Railwa	ay vehicles
612ZTS	Railway Lines and Stations	Z,ZK	4
Rail transport. Ra	allway track geometry parameters. Route layout of railway lines. Railway line construction - railway substructure and superstructure. S Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail t		way lines.
612ZYDK	Introduction to Transportation Engineering	Z,ZK	3
Role of transportati	on in land-use planning. Basic terms in transportation engineering. Traffic survey and traffic prognosis. Introduction to topic of roads, p	ublic mass transpo	ort. Negative
	impacts of transportation to environment and safety.		
614ASD	Algorithm and Data Structures	KZ	3
	niliarized with selected basic and derived data structures, algorithms, their properties and their design procedure. Students will analyze et task and the resulting algorithm write by means of flowcharts, practice in reading algorithms recorded by means of the flowchart ar algebra with forming the conditions for the algorithms.		
614DATS	Database Systems	KZ	2
	f database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security an		1
	queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via		
614DMG	Datamining	KZ	2
Types of data sour	rces and knowledge, data warehouses and OLAP technology for data mining, data preprocessing in the process of knowledge acquis tics of concepts (classes), mining association rules from relational db. and data warehousing, classification (decisions tree, Bayesian	sition systems for d	lata mining,
	Prediction. Cluster analysis. Mining in complex structured data, multimedia dbf., www.		

	Constructing with Computer Aid	KZ	2
	rm determination. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic common work. Co-ordinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting possibi		
•	profiles, drawings with raster foundaments).	1100, 710100712 01	ivii Oriii iorii
614PRG	Programming	KZ	2
Algorithm develo	opment, methods of structured programming, high-level programming languages, basics of C programming languages (types, variables	s, conditions, cycle	es, arrays,
	functions), programming techniques, complexity.		
614W1HW	Computer Hardware	KZ	4
Computer archite	ecture, basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and separate p	arts designing - c	ontrollers,
C4 4) M 4 D 1	arithmetic and logical units, I/O subsystem.	1/7	1
614W1PJ	C Programming Language paguage. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, string	KZ	and unions
C programming lai	Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise op	-	and unions.
614W1PZ	Advanced Data Processing in Spreadsheets	KZ	4
	familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formul		including
addressing, error d	detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, so	olution finding, sol	ver, macros,
	data analysis. Examples and questions from various companies and training.		1
614W1UP	Editing of Theses in MS Word	KZ	4
	introduced to the principles of creating and editing large documents and basic typographic rules. They will properly apply styles, creat		
figures, tables, gra	uphs, etc. Footnotes, captions, index. They practice corrections of finished documents. The goal is to prepare students for seamless edi so that they are able to concentrate mainly on writing a thesis.	ting dissertations	and theses,
615DPLG	Transportation Psychology	Z	2
	ogy and its basic concepts. Information intake, decision-making and behaviour. Performance. Engineering psychology and vehicle constr	_	
	el route and traffic conditions, accidents and traffic incidents. Selection and training of the staff. Work and leisure. Age as a factor in tra		
615JZ1A	Foreign Language - English 1	Z	3
Grammatical struc	tures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and con	nmunicative skills.	Elementary
	stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles o		
615JZ2A	Foreign Language - English 2	Z,ZK	3
Grammatical struc	tures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and con		Elementary
045 1705	stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles o	Z	
615JZ3F	Foreign Language - French 3 listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	-	knowledge
· ·	natios. Selection of conversation and professional topics based on the ranguage level and study locus at the racdity. Improvement of a nd communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w		_
	features. Practice of oral and written presentation.	,	
615JZ3I	Foreign Language - Italian 3	Z	3
	listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	nguage structure	knowlodgo
and perceptive an			
	nd communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w		
045 17011	features. Practice of oral and written presentation.	vith (professional)	text and its
615JZ3N	features. Practice of oral and written presentation. Foreign Language - German 3	vith (professional)	text and its
Grammar and sty	features. Practice of oral and written presentation. Foreign Language - German 3 listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	Z Inguage structure	text and its 3 knowledge
Grammar and sty	features. Practice of oral and written presentation. Foreign Language - German 3 listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of land communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work was a support of the communicative skills, vocabulary development.	Z Inguage structure	text and its 3 knowledge
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615W1BO	Work Safety and Health Protection in Transportation	KZ	4
Fundamental legis	Slative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H	ealth protection pr	ogrammes,
	health insurance of home and foreign business trips, statistics, working practice.		
615W1HE	Work Hygiene and Ergonomics in Traffic	KZ	4
Basic knowledge	of occupational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of these	factors on health o	f workers.
Creation and prot	tection of working conditions that do not damage public health. Mutual links man-machine-environment. Adaptation of technology to p	ossibilities and ski	ills of man.
	Practical examples from the field of transportation; relevant legislative.		
616DPO	Vehicle Technology	KZ	2
Vehicle. Functions	s, principles. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety, carriage d	lesign. Drive. Elect	ric traction.
	Transshipment. Technological components of various modes of transport. Management and control of various means of transport	. Safety.	
616UDOP	Introduction into Vehicles	Z	2
	portation systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and wate	r transport. Alterna	I
	of transport. Lifting equipment and conveyors. Legislation.	•	
616W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4
	e production. Vehicle maintenance. Vehicle diagnostics. Maintenence and repair plans. Engine maintenance and emission measurements	1	1
	General principles of engine diagnostics.		
617EPOD	Economics of Transport Company	Z,ZK	6
	al utility, marginal costs, function of supply and demand, market equilibrium, perfect competition and types of market arrangement. Tra	'	_
LCOHOITIY, margina	company, it's environment, balance sheet, costs, revenue, profit and maximalization of profit. Business plan, taxation in transp	•	st, transport
C47ECVC			
617ESYS	Transport Systems Economy	Z,ZK	6
Macroeconomics, r	macroeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system and it	s quantification, ra	tionalization
	of transport system.		
617LGT	Logistics	Z,ZK	6
Logistics definition	i, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intelligi	ent logistics systen	ns, logistics
	city.		ı
617MAGD	Marketing Transport	KZ	4
Development of str	rategic marketing plans, Implementation of marketing campaigns, Branding and brand promotion, Public relations – industry, busines:	s and vertical mark	ket, Website
development, sear	rch engine optimization, Government relations and industry organization lobbying, Advertising and strategic sponsorships, Multimedia	a presentations and	d corporate
	videos, Direct marketing and related lead generation campaigns		
617MDP	Transport prognostic methods	KZ	2
The techniques of	economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsion of statistica	I values using diffe	rencies and
	indices.		
617TEDK	Transport Technology and Logistics	KZ	4
Basic terms in tran	sport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight tran	sport, organisation	of traffic in
each transport m	advantage of the side of appropriate and client arguments of city transport logistic technologies and their appropriate was		
odon nanoporem	odus, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usi	ing various transpo	ort modus.
617TGA		ing various transpo	ort modus.
617TGA	Graph Theory and its Applications in Transport Graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in c	Z,ZK	4
617TGA Basic terms of	Graph Theory and its Applications in Transport f graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in c	Z,ZK other scientific disc	4 iplines.
617TGA Basic terms of 617TVD	Graph Theory and its Applications in Transport f graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in c Technology of Public Transport	Z,ZK other scientific disc	4 siplines.
617TGA Basic terms of 617TVD	Graph Theory and its Applications in Transport f graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in c Technology of Public Transport ents a detailed description of new knowledge and basic principles of hierarchical planning of public transport system accenting the ge	Z,ZK other scientific disc Z,ZK oneral transport pla	4 siplines.
617TGA Basic terms of 617TVD The course conte	Graph Theory and its Applications in Transport f graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in c Technology of Public Transport ents a detailed description of new knowledge and basic principles of hierarchical planning of public transport system accenting the ge quantified transport demand. The course would be oriented on multiple and multi-level optimisation of passenger public transport	Z,ZK other scientific disc Z,ZK oneral transport pla system.	4 siplines. 5 sinning and
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617TGA Basic terms of 617TVD The course conte 617W1EV Economic and final tax system of the C 617W1LL	Graph Theory and its Applications in Transport f graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in or Technology of Public Transport ents a detailed description of new knowledge and basic principles of hierarchical planning of public transport system accenting the ge quantified transport demand. The course would be oriented on multiple and multi-level optimisation of passenger public transport Public Sector Economy ncial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assesment of public R, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, funding fro Logistics of Passenger and Freight Air Transportation ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial trans	Z,ZK other scientific disc Z,ZK oneral transport pla system. KZ lic projects (CBA, I om EU funds, prog	4 iplines. 5 inning and 4 MCA, CEA), ram HDM-4.
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618PZP	Elasticity and Strength	Z.ZK	3
	ression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, boltec	,	1
•	ection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic fou	•	
618SAT	Structural Analysis	Z.ZK	4
General system	of forces in plane and space. Calculation of reactions of bodies and structures. Assessment of internal forces on statically determinate	beams and sim	ple girders.
Principle of virtual	work. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss constructions.	Cross-sectional c	haracteristics
•	of planar shapes. Fiber polygons and chains.		
618TED	Technical Documentation	KZ	2
Technical stand	ı rards, international standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional	and geometrica	l accuracy,
	arrangement of drawing sheets.	-	•
620SYSA	Systems Analysis	Z,ZK	5
Introduction to sys	tem sciences, system viewpoint, terminology, typical system analysis tasks, system identification, system interface and interface tasks,	processes, syste	em behaviou
and its analysis,	strong functions and processes, genetic code, system identity, system architecture. Tools for system analysis - Petri nets, decision tab	les, algorithms fo	or structural
	tasks. Soft and hard systems, methods for soft system analysis.		
620UITS	Introduction to Intelligent Transport Systems	Z,ZK	7
Terminology and le	gislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of inform	nation and telecc	mmunication
systems for ITS. P	rinciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examples	of possible appli	cations of the
	principles of ITS.		
621W1BC	Aviation safety and security	KZ	4
History of	of safety and security development in aviation. Modern tools for safety and security management. Research and development of safe a	nd secure syster	ms.
621W1BS	Unmanned aircraft systems 1	KZ	4
Unmanned Aviation	n Development. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division. Ope	rational risks and	d operational
	procedures. Practical flights.		•
621W1MP	Matlab for project-oriented study	KZ	4
The subject's sylla	abus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises	will be prepared	according to
particular exam	oles, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvement	nt of students' Ma	atlab skills.
621W1RZ	Human Resources Management	KZ	4
The position of	human resources in the organization and related disciplines file. Substance, importance and challenges of human resources manager	ment. Internal an	d external
environment of hu	man resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and rem	uneration of staf	f. Positioning
	dismissal and redundancies of employees. Education of employees. Planning career management.		
621W1TH	Aircraft Technical Handling	KZ	4
	and pushing tractors. GPU. Air conditioning and heating units. Aircraft fuel equipment. De-acing and anti-icing units. Loading and unlo	ading units. Equi	pment for
p.	assangers onboarding and offboarding. Operational processes of aircraft technical handling and regulations. Modernization and techni	cal progress.	•
621ZALD	Basics of Air Transport	KZ	2
	terminology, basic rules. VFR/IFR. Basics of aerodynamics. Propulsion of aircraft. Aircraft design. Basics of navigation, radio navigation.	Neight, balance.	performance
•	timization of speed and heights, minimum fuel. Limitations of operation, maintenance, service life of aircraft. Traffic management, grour	•	•
	Airlines and economics. Space technologies.	<u>.</u>	-
	Basics of Law	Z	2
623ZAP		_	. —
	in the Czech legal system. The course is primarily intended to provide students with orientation in fundamentals of the Czech Republic	, legal system ar	nd in various
Basic orientation	in the Czech legal system. The course is primarily intended to provide students with orientation in fundamentals of the Czech Republic ding adoption of the basic principles of European Community law. The course consists of selected chapters from the public and private I		

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