Study plan

Name of study plan: Bachelor TET-LOG Part-Time from 2024/25

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: 180
Elective courses credits: 0
Sum of credits in the plan: 180
Note on the plan:

Name of the block: Compulsory courses
Minimal number of credits of the block: 91
The role of the block: Z

Code of the group: 1S-BK-TET-24/25
Name of the group: 1st Sem. Bachelor Part-Time TET from 2024/25
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
11CAL1	**Calculus 1** *Olga Vraštilová, Tomáš Třasák, Magdalena Hykšová, Bohumil Kovář, Ondřej Navrátil* ***Bohumil Kovář*** *Ondřej Navrátil (Gar.)*	Z,ZK	7	2P+4C+22B	Z	z
11LA	**Linear Algebra** *Lucie Kárná, Pavel Provinský, Martina Bečvářová* ***Martina Bečvářová*** *Martina Bečvářová (Gar.)*	Z,ZK	3	2P+1C+10B	Z	z
12ZADK	**Introduction to Transportation Engineering** *Dagmar Kočárková, Jana Štikarová*	Z,ZK	5	12B	Z	z
18MTY	**Materials Science and Engineering** *Jaromír Kylar, Veronika Drechslerová, Jaromír Kylar, Nela Krčmářová, Jitka Řezníčková, Jaroslav Valach, Vít Malinovský, Veronika Drechslerová, Jaromír Kylar* ***Jaroslav Valach*** *Jaroslav Valach (Gar.)*	Z,ZK	3	2P+1C+10B	Z	z
11GIE	**Geometry** *Pavel Provinský, Oldřich Hykš, Šárka Voráčová* ***Oldřich Hykš*** *Oldřich Hykš (Gar.)*	KZ	3	2P+2C+12B	Z	z
14ASD	**Algorithm and Data Structures** *Tomáš Brandejský, Michal Jeřábek, Alena Kubáčová, Jan Procházka, Vít Fábera, Martin Fiala* ***Vít Fábera*** *Vít Fábera (Gar.)*	KZ	3	0P+2C+8B	Z	z
18TKK	**Technical Drawing and Designing** *Jitka Řezníčková, Vít Malinovský, Jan Šleichrt, Martin Brumovský, Jan Mejstřík, Drahomír Schmidt, Lukáš Svoboda, Jan Vogl, Jiří Zeisek, ...* ***Jan Šleichrt*** *Jan Šleichrt (Gar.)*	KZ	4	2P+2C+16B	Z	z
16UDOP	**Introduction into Vehicles** *Zuzana Radová, Petr Bouchner*	Z	2	2P+0C+8B	Z	z

Characteristics of the courses of this group of Study Plan: Code=1S-BK-TET-24/25 Name=1st Sem. Bachelor Part-Time TET from 2024/25

11CAL1	Calculus 1	Z,ZK	7
Sequence of real numbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integral, Riemann integral, improper Riemann integral. First-order differential equations, linear differential equations.			
11LA	Linear Algebra	Z,ZK	3
Vector spaces (linear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their solvability. Determinants and their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification.			
12ZADK	Introduction to Transportation Engineering	Z,ZK	5

18MTY	Materials Science and Engineering	Z,ZK	3
Basic course of materials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructure. However the 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. Attention is also paid to degradation processes in materials, to defectoscopy and to main mechanical tests.			
11GIE	Geometry	KZ	3
Differential geometry of curves - parameterization, the 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 on a curved path.			
14ASD	Algorithm and Data Structures	KZ	3
Students will analyze problems, design a theoretical solution to a given problem and write the resulting algorithm using flowcharts, practice reading algorithms written using flowcharts, and use basic Boolean algebra to construct constraints in algorithms. Students will be introduced to the basics of the Python programming language - variable, branching, loops, they will learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programs.			
18TKK	Technical Drawing and Designing	KZ	4
16UDOP	Introduction into Vehicles	Z	2
Vehicles and transportation systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and water transport. Alternative means of transport. Lifting equipment and conveyors. Legislation.			

Code of the group: 2S-BK-TET-24/25
Name of the group: 2nd Sem. Bachelor Part-Time TET from 2024/25
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
11CAL2	**Calculus 2** *Olga Vraštilová, Tomáš Třasák, Magdalena Hykšová, Ondřej Navrátil, Oldřich Hykš* ***Magdalena Hykšová*** *Ondřej Navrátil (Gar.)*	Z,ZK	5	2P+3C+20B	L	z
11STAT	**Statistics** *Pavel Provinský, Evženie Uglickich, Pavla Pecherková, Michal Matowicki, Natálie Blahitka, Ivan Nagy, Jana Kuklová* ***Pavla Pecherková*** *Evženie Uglickich (Gar.)*	Z,ZK	4	2P+2C+12B	L	z
12ZTS	**Railway Lines and Stations** *Lukáš Týfa, Martin Jacura, Petr Šatra, Tomáš Javořík, Ondřej Trešl Lukáš Týfa (Gar.)*	Z,ZK	4	2P+2C+10B	L	z
18SAT	**Structural Analysis** *Jaromír Kylar, Veronika Drechslerová, Nela Krčmářová, Jitka Řezníčková, Jan Šleichrt, Daniel Kytýř, Jan Vyčichl, Tomáš Doktor, Jan Falta Daniel Kytýř (Gar.)*	Z,ZK	4	2P+2C+14B	L	z
20SYSA	**Systems Analysis** *Zuzana Bělinová, Jiří Růžička, Patrik Horažďovský, Petr Bureš Zuzana Bělinová (Gar.)*	Z,ZK	5	2P+2C+14B	L	z
14PRG	**Programming** *Alena Kubáčová, Jan Procházka, Martin Fiala, Lukáš Svoboda, Jana Kaliková, Jan Krčál* ***Jana Kaliková*** *Jana Kaliková (Gar.)*	KZ	2	0P+2C+8B	L	z
17TEDK	**Transport Technology and Logistics** *Michal Drábek Michal Drábek (Gar.)*	KZ	4	12B	L	z
21ZALD	**Basics of Air Transport** *Jakub Hospodka, Tomáš Tlučhoř, Jiří Volt, Peter Olexa, Jan Slezáček, Jakub Trýb, Sébastien Lán, Bo Stloukal*	KZ	2	0P+2C+8B	L	z

Characteristics of the courses of this group of Study Plan: Code=2S-BK-TET-24/25 Name=2nd Sem. Bachelor Part-Time TET from 2024/25

11CAL2	Calculus 2	Z,ZK	5
Linear differential equations and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and surface integrals.			
11STAT	Statistics	Z,ZK	4
Basics of probability Descriptive statistics Population and sample, limit theorem Point estimate, construction and properties Interval estimates Parametric tests Nonparametric tests Regression and correlation analysis			
12ZTS	Railway Lines and Stations	Z,ZK	4
Rail transport. Railway track geometry parameters. Route layout of railway lines. Railway line construction - railway substructure and superstructure. Spatial layout of railway lines. Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport.			
18SAT	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 simple girders. Principle of virtual work. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss constructions. Cross-sectional characteristics of planar shapes. Fiber polygons and chains.			
20SYSA	Systems Analysis	Z,ZK	5
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.			

14PRG	Programming	KZ	2
The Course Programming builds on and fully extends the course 14ASD (Algorithmization and Data Structures). The knowledge of the Python programming language is expanded here so that the participant gains skills and can apply them to solve various follow-up tasks. Main topics: lists, multidimensional arrays, sorting and searching, tuples, sets, dictionaries, working with date and time, regular expressions, functions and procedures, working with files (CSV, JSON, XML).			
17TEDK	Transport Technology and Logistics	KZ	4
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.			
21ZALD	Basics of Air Transport	KZ	2
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-BK-TET-25/26
Name of the group: 3rd Sem. Bachelor Part-Time TET from 2025/26
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
11FYZ	**Physics** *Oldřich Hykš, Jana Kuklová, Pavel Demo, Zuzana Malá, Tomáš Vítů* ***Jana Kuklová*** *Pavel Demo (Gar.)*	Z,ZK	5	2P+2C+18B	Z	z
12MDE	**Transport Models and Transport Excesses** *Josef Kocourek, Tomáš Padělek*	Z,ZK	3	2P+1C+8B	Z	z
11TGA	**Graph Theory and its Applications in Transport** *Denisa Mocková, Dušan Teichmann* ***Denisa Mocková*** *Denisa Mocková (Gar.)*	Z,ZK	4	2P+2C+12B	Z	z
18PZP	**Elasticity and Strength** *Jitka Řezníčková, Jan Šleichrt, Daniel Kytýř, Jan Vyčichl, Tomáš Doktor, Josef Jíra, Ondřej Jiroušek* ***Ondřej Jiroušek*** *Ondřej Jiroušek (Gar.)*	Z,ZK	3	2P+1C+10B	Z	z
20UITS	**Introduction to Intelligent Transport Systems** *Jiří Růžička, Patrik Horažďovský, Kristýna Navrátilová, Viktor Beneš, Eva Hajčiarová, Martin Langr, Vladimír Faltus, Pavel Hrubeš* ***Martin Langr***	Z,ZK	7	3P+2C+20B	Z	z
12PPOK	**Designing Roads, Highways and Motorways** *Josef Kocourek, Tomáš Padělek, Polina Zayats, Petr Kumpošt Josef Kocourek (Gar.)*	KZ	3	1P+2C+10B	Z	z
14DATS	**Database Systems** *Jana Kaliková, Jan Krčál* ***Jana Kaliková*** *Jana Kaliková (Gar.)*	KZ	2	1P+1C+10B	Z	z
15JZ1A	**Foreign Language - English 1** *Markéta Vojanová, Dana Boušová, Marie Michlová, Marek Tomeček, Jan Feit, Markéta Musilová, Peter Morpuss, Lenka Monková, Jitka Heřmanová, ...*	Z	3	0P+4C+10B	Z	z

Characteristics of the courses of this group of Study Plan: Code=3S-BK-TET-25/26 Name=3rd Sem. Bachelor Part-Time TET from 2025/26

11FYZ	Physics	Z,ZK	5
Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and electric current.			
12MDE	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 queues, shock waves. Quality of transport and its assessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the consequences. Improving of transport safety and fluency.			
11TGA	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 other scientific disciplines.			
18PZP	Elasticity and Strength	Z,ZK	3
Tension and compression. Bending of beam. Shear stress in bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted and welded joints of structures. Analysis of deflection curve of beams. Torsion of circular cross sections. Combined loading. Stability.			
20UITS	Introduction to Intelligent Transport Systems	Z,ZK	7
Terminology and legislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of information and telecommunication systems for ITS. Principles and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examples of possible applications of the principles of ITS.			
12PPOK	Designing Roads, Highways and Motorways	KZ	3
Definition, types, ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard speed. Route in rural areas. Range of vision for stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety device. Crossings, junctions, intersections.			
14DATS	Database Systems	KZ	2
Basic concepts of database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security and integrity of data, database queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via the WWW.			
15JZ1A	Foreign Language - English 1	Z	3
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and communicative skills. Elementary stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.			

Code of the group: XB-BK-LOG-26-27
Name of the group: Bachelor Thesis Seminar Bachelor TET-LOG Part-Time from 2026/27
Requirement credits in the group: In this group you have to gain 1 credit
Requirement courses in the group: In this group you have to complete 1 course
Credits in the group: 1
Note on the group:

Name of the block: Compulsory courses in the program
Minimal number of credits of the block: 71
The role of the block: P

Code of the group: 4S-BK-LOG-25/26
Name of the group: 4th Sem. Bachelor Part-Time TET-LOG from 2025/26
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
11MSP	**Modeling of Systems and Processes** *Bohumil Kovář, Lucie Kárná* ***Bohumil Kovář*** *Bohumil Kovář (Gar.)*	Z,ZK	4	2P+2C+12B	L	P
17ESYS	**Transport Systems Economy** *Rudolf Franz Heidu, Roman Štěrba Rudolf Franz Heidu (Gar.)*	Z,ZK	6	3P+2C+18B	L	P
17LGT	**Logistics** *Tomáš Horák, Eliška Glaserová Tomáš Horák (Gar.)*	Z,ZK	6	3P+2C+18B	L	P
11LP	**Linear Programming** *Šárka Voráčová, Pavla Pecherková, Ivan Nagy* ***Pavla Pecherková*** *Ivan Nagy (Gar.)*	KZ	3	2P+1C+12B	L	P
11MDP	**Transport Prognostic Methods** *Alena Rybičková* ***Alena Rybičková*** *Denisa Mocková (Gar.)*	KZ	2	2P+0C+10B	L	P
16DPO	**Vehicle Technology** *Josef Mík, Josef Svoboda, Přemysl Toman Josef Mík (Gar.)*	KZ	2	2P+0C+10B	L	P
15JZ2A	**Foreign Language - English 2** *Markéta Vojanová, Marie Michlová, Marek Tomeček, Jan Feit, Markéta Musilová, Peter Morpuss, Lenka Monková, Jitka Heřmanová, Eva Rezlerová, ...*	Z,ZK	3	0P+4C+10B	L	P

Characteristics of the courses of this group of Study Plan: Code=4S-BK-LOG-25/26 Name=4th Sem. Bachelor Part-Time TET-LOG from 2025/26

11MSP	Modeling of Systems and Processes	Z,ZK	4
System and subsystem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation of differential and 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.			
17ESYS	Transport Systems Economy	Z,ZK	6
Macroeconomics, macroeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system and its quantification, rationalization of transport system.			
17LGT	Logistics	Z,ZK	6
Logistics definition, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intelligent logistics systems, logistics city.			
11LP	Linear Programming	KZ	3
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, stability of solution of linear programming problem. Traffic problem.			
11MDP	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 statistical values using differencies and indices.			
16DPO	Vehicle Technology	KZ	2
Vehicle. Functions, principles. Drive, 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.			
15JZ2A	Foreign Language - English 2	Z,ZK	3
Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and communicative skills. Elementary stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.			

Code of the group: 5S-BK-LOG-26/27
Name of the group: 5th Sem. Bachelor Part-Time TET-LOG from 2026/27

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
12ZPV	**Railway Operation** *Martin Jacura, Jan Kruntorád*	Z,ZK	4	2P+1C+12B	Z	P
17EPOD	**Economics of Transport Company** *Alexandra Dvořáčková, Václav Baroch Alexandra Dvořáčková (Gar.)*	Z,ZK	6	4P+2C+18B	Z	P
17TVD	**Technology of Public Transport** *Stanislav Metelka, Vít Janoš, Jiří Pospíšil, Zdeněk Michl Vít Janoš (Gar.)*	Z,ZK	5	2P+2C+18B	Z	P
14DMG	**Datamining** *Radek Holý **Radek Holý** Radek Holý (Gar.)*	KZ	2	0P+2C+10B	Z	P
17MAGD	**Marketing in Transport** *Petra Skolilová Petra Skolilová (Gar.)*	KZ	4	2P+1C+12B	Z	P
17ZAP	**Fundamentals od law** *Martina Děvěrová Martina Děvěrová (Gar.)*	Z	2	2P+0C+10B	Z	P

Characteristics of the courses of this group of Study Plan: Code=5S-BK-LOG-26/27 Name=5th Sem. Bachelor Part-Time TET-LOG from 2026/27

12ZPV	Railway Operation	Z,ZK	4
Legislation in railway transport. Railway vehicles. Railway signals and signal devices. Railway traffic organisation and operation. Simplified railway traffic operation. Railway vehicles brakes. Railway vehicles marking. Operation intervals. Theoretical graph of train running.			
17EPOD	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.			
17TVD	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.			
14DMG	Datamining	KZ	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.			
17MAGD	Marketing in Transport	KZ	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.			
17ZAP	Fundamentals od law	Z	2

Code of the group: 6S-BK-LOG-26/27
Name of the group: 6th Sem. Bachelor Part-Time TET-LOG from 2026/27
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
17FID	**Financing and Investment in Transport** *Alexandra Dvořáčková, Olga Mertlová Olga Mertlová (Gar.)*	Z,ZK	4	2P+1C+12B	L	P
17IVED	**Integration of Public Transport** *Roman Štěrba Roman Štěrba (Gar.)*	Z,ZK	3	2P+1C+10B	L	P
17KLID	**Quality in Transport Service** *Pavel Edvard Vančura Pavel Edvard Vančura (Gar.)*	Z,ZK	3	2P+1C+10B	L	P
17MRRK	**Managerial Decision-making and Management** *Alexandra Dvořáčková Alexandra Dvořáčková (Gar.)*	Z,ZK	3	10B	L	P
14MPG	**Modern Programming Approaches** *Michal Jeřábek, Vít Fábera **Michal Jeřábek** Vít Fábera (Gar.)*	KZ	2	0P+2C+8B	L	P
17GEDS	**Geography of Transport Systems** *Miroslav Marada Miroslav Marada (Gar.)*	KZ	2	2P+0C+8B	L	P
12ZAR	**Introduction to Architectural Design** *Karel Hájek*	Z	3	2P+0C+8B	L	P
17NAPR	**Freight Traffic** *Roman Štěrba Roman Štěrba (Gar.)*	Z	2	2P+0C+8B	L	P

Characteristics of the courses of this group of Study Plan: Code=6S-BK-LOG-26/27 Name=6th Sem. Bachelor Part-Time TET-LOG from 2026/27

17FID	Financing and Investment in Transport	Z,ZK	4
Sources of financing of transport infrastructure, the role of public administration in the financing and realization of investment in transport, the investment project project cycle, subsidy programs and their rules, competition, effectiveness and efficiency of spending public funds, evaluation systems of public projects and programs.			
17IVED	Integration of Public Transport	Z,ZK	3
Transport policy of both EU and CR, transport sectoral strategies, land use planning and evolution of space organization, integration of public service in territory, forms and content of activities and organizational structures of integrated public transport systems, internal and external bindings, contracting, carriage relations, conditions of both rail and bus transport operations, grading and quality, IS, marketing.			
17KLID	Quality in Transport Service	Z,ZK	3
General interpretation of quality, standards and international standardization, integrated management systems, modern attitudes of quality management, quality in transport service and logistics, methods of quality measurement, quality management, risks and opportunities, public transport quality, view of costumers, carriers and PT-organizers, quality standards, quality costs, marketing and costumer satisfaction.			
17MRRK	Managerial Decision-making and Management	Z,ZK	3
Decision-making process; identifying exactly what the problem is; evaluating the issue; solving the issue; using multiple perspective analysis to make a decision; usual method of thinking.			
14MPG	Modern Programming Approaches	KZ	2
Students will be reminded of some aspects of Pythom programming, learn basic concepts and constructs from object-oriented programming and their implementation in Python. They will also try out the basics of working with data libraries in Python, namely NumPy, Pandas, Matplotlib, and practice with examples of smaller and larger data sizes.			
17GEDS	Geography of Transport Systems	KZ	2
Regional differentiation of the transport system. Sociogeographic regionalization and its relation to transport. Transport and local and regional development. Spatial interaction - theoretical and methodological framework. Mobility research - travel behavior, mode choice and the influence onto "modal-split." Modal competition. Practical use of transport-geographical analysis in transportation planning.			
12ZAR	Introduction to Architectural Design	Z	3
Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Tramway and town tracks. Design of vehicles. Subway. Railway transport. Railway stations. Local communications. International airports.			
17NAPR	Freight Traffic	Z	2
Freight traffic and transportation system, conditions of implementation, forwarding.			

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: W1-BK-LOG-25/26
Name of the group: Comp. Sel. Courses Bachelor Part-Time TET-LOG from 2025/26
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:

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
15W1BO	**Work Safety and Health Protection** *Petr Musil*	KZ	4	8	L	PV
17W1EV	**Public Sector Economy**	KZ	4	8B	Z	PV
14W1HW	**Computer Hardware**	KZ	4	8B	L	PV
15W1HE	**Work Hygiene and Ergonomics in Traffic** *Petr Musil*	KZ	4	8B	Z	PV
17W1LL	**Logistics of Passenger and Freight Air Transport**	KZ	4	8B	L	PV
17W1OF	**Personal Finance**	KZ	4	8	Z	PV
17W1PM	**Personal Management**	KZ	4	8	L	PV
14W1PZ	**Advanced Data Processing in Spreadsheets**	KZ	4	8B	Z	PV
14W1PJ	**C Programming Language**	KZ	4	8B	Z	PV
16W1PV	**Operation, Construction and Maintenance of Vehicles**	KZ	4	8	L	PV
17W1ST	**Titan Simulation**	KZ	4	8B	L	PV
17W1SL	**Sociology of Human Resources**	KZ	4	8	Z	PV
17W1SK	**Urban and Regional Rail Transport Systems**	KZ	4	8B	L	PV
14W1UP	**Editing of Theses in MS Word**	KZ	4	8	L	PV

Characteristics of the courses of this group of Study Plan: Code=W1-BK-LOG-25/26 Name=Comp. Sel. Courses Bachelor Part-Time TET-LOG from 2025/26

15W1BO	Work Safety and Health Protection	KZ	4
Základní legislativa, vymezení pojmů, rizika a možná poškození zdraví, pracovní podmínky a ochrana zdraví zejména v dopravě. Programy na ochranu zdraví a zdravotní zajištění na služebních cestách doma i v zahraničí, statistika, praxe.			

17W1EV	Public Sector Economy	KZ	4
Economic and financial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assesment of public projects (CBA, MCA, CEA), tax system of the CR, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, funding from EU funds, program HDM-4.			
14W1HW	Computer Hardware	KZ	4
Computer architecture, basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and separate parts designing - controllers, arithmetic and logical units, I/O subsystem.			
15W1HE	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 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 a man. Practical examples from the field of transportation; relevant legislature.			
17W1LL	Logistics of Passenger and Freight Air Transport	KZ	4
Logistics airline passenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport process passengers and air cargo. Information systems in air transport. Global distribution systems.			
17W1OF	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, mortgage, savings, consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability and adequacy), securing the future (retirement savings and insurance).			
17W1PM	Personal Management	KZ	4
Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, intercultural communication.			
14W1PZ	Advanced Data Processing in Spreadsheets	KZ	4
Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formulas and functions, including addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, solution finding, solver, macros, data analysis. Examples and questions from various companies and training.			
14W1PJ	C Programming Language	KZ	4
C programming language. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, string, files, structures and unions. Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise oprerators.			
16W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4
Methods of vehicle production. Vehicle maintenance. Vehicle diagnostics. Maintenance and repair plans. Engine maintenance and emission measurement. Transmission mechanism. General principles of engine diagnostics.			
17W1ST	Titan Simulation	KZ	4
Titan is a management game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with the same product. Students set a price and determine the quantity and capacity of production, plan budgets for marketing, research and development. They become familiar with the consequences of their decisions by the form of financial corporate reports and they use this information for other business decisions.			
17W1SL	Sociology of Human Resources	KZ	4
Human resources and their importance, work group as a special kind of social group, communication, personal management, modern management, human resources planning, culture of the organization.			
17W1SK	Urban and Regional Rail Transport Systems	KZ	4
Factors affecting transport demand, modal-split, distribution of passenger flows on public regional transport lines. Optimization of line management, line networking. Creating and evaluation of the timetable. Vehicle circulation creation. Optimizing driver shifts and arranging them in turnus. Effects of barrier-free and public transport preferences. The role of marketing.			
14W1UP	Editing of Theses in MS Word	KZ	4
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: JZ-BP-TET-22/23
Name of the group: Bachelor TET (ex LED) 2nd Language Courses from 2022/23
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
15JZ3F	**Foreign Language - French 3** *Irena Veselková*	Z	3	0P+4C+10B	Z	J
15JZ3I	**Foreign Language - Italian 3** *Irena Veselková*	Z	3	0P+4C+10B	Z	J
15JZ3N	**Foreign Language - German 3** *Jana Štikarová, Eva Rezlerová, Martina Navrátilová*	Z	3	0P+4C+10B	Z	J
15JZ3R	**Foreign Language - Russian 3** *Marie Michlová*	Z	3	0P+4C+10B	Z	J
15JZ3S	**Foreign Language - Spanish 3** *Nina Hricsina Puškinová*	Z	3	0P+4C+10B	Z	J

15JZ4F	**Foreign Language - French 4** *Irena Veselková*	Z,ZK	3	0P+4C+10B	L	J
15JZ4I	**Foreign Language - Italian 4**	Z,ZK	3	0P+4C+10B	L	J
15JZ4N	**Foreign Language - German 4** *Jana Štikarová, Eva Rezlerová, Martina Navrátilová*	Z,ZK	3	0P+4C+10B	L	J
15JZ4R	**Foreign Language - Russian 4** *Marie Michlová*	Z,ZK	3	0P+4C+10B	L	J
15JZ4S	**Foreign Language - Spanish 4** *Zuzana Krinková*	Z,ZK	3	0P+4C+10B	L	J

Characteristics of the courses of this group of Study Plan: Code=JZ-BP-TET-22/23 Name=Bachelor TET (ex LED) 2nd Language Courses from 2022/23

15JZ3F	Foreign Language - French 3	Z	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.			
15JZ3I	Foreign Language - Italian 3	Z	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.			
15JZ3N	Foreign Language - German 3	Z	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.			
15JZ3R	Foreign Language - Russian 3	Z	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.			
15JZ3S	Foreign Language - Spanish 3	Z	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.			
15JZ4F	Foreign Language - French 4	Z,ZK	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.			
15JZ4I	Foreign Language - Italian 4	Z,ZK	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.			
15JZ4N	Foreign Language - German 4	Z,ZK	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.			
15JZ4R	Foreign Language - Russian 4	Z,ZK	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.			
15JZ4S	Foreign Language - Spanish 4	Z,ZK	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.			

List of courses of this pass:

Code	Name of the course	Completion	Credits
11CAL1	Calculus 1	Z,ZK	7
Sequence of real numbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integral, Riemann integral, improper Riemann integral. First-order differential equations, linear differential equations.			
11CAL2	Calculus 2	Z,ZK	5
Linear differential equations and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and surface integrals.			
11FYZ	Physics	Z,ZK	5
Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and electric current.			
11GIE	Geometry	KZ	3
Differential geometry of curves - parameterization, the 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 on a curved path.			

11LA	Linear Algebra	Z,ZK	3
Vector spaces (linear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their solvability. Determinants and their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification.			
11LP	Linear Programming	KZ	3
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, stability of solution of linear programming problem. Traffic problem.			
11MDP	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 statistical values using differencies and indices.			
11MSP	Modeling of Systems and Processes	Z,ZK	4
System and subsystem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation of differential and 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.			
11STAT	Statistics	Z,ZK	4
Basics of probability Descriptive statistics Population and sample, limit theorem Point estimate, construction and properties Interval estimates Parametric tests Nonparametric tests Regression and correlation analysis			
11TGA	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 other scientific disciplines.			
12MDE	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 queues, shock waves. Quality of transport and its assessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the consequences. Improving of transport safety and fluency.			
12PPOK	Designing Roads, Highways and Motorways	KZ	3
Definition, types, ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard speed. Route in rural areas. Range of vision for stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety device. Crossings, junctions, intersections.			
12ZADK	Introduction to Transportation Engineering	Z,ZK	5
12ZAR	Introduction to Architectural Design	Z	3
Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Tramway and town tracks. Design of vehicles. Subway. Railway transport. Railway stations. Local communications. International airports.			
12ZPV	Railway Operation	Z,ZK	4
Legislation in railway transport. Railway vehicles. Railway signals and signal devices. Railway traffic organisation and operation. Simplified railway traffic operation. Railway vehicles brakes. Railway vehicles marking. Operation intervals. Theoretical graph of train running.			
12ZTS	Railway Lines and Stations	Z,ZK	4
Rail transport. Railway track geometry parameters. Route layout of railway lines. Railway line construction - railway substructure and superstructure. Spatial layout of railway lines. Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport.			
14ASD	Algorithm and Data Structures	KZ	3
Students will analyze problems, design a theoretical solution to a given problem and write the resulting algorithm using flowcharts, practice reading algorithms written using flowcharts, and use basic Boolean algebra to construct constraints in algorithms. Students will be introduced to the basics of the Python programming language - variable, branching, loops, they will learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programs.			
14DATS	Database Systems	KZ	2
Basic concepts of database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security and integrity of data, database queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via the WWW.			
14DMG	Datamining	KZ	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.			
14MPG	Modern Programming Approaches	KZ	2
Students will be reminded of some aspects of Pythom programming, learn basic concepts and constructs from object-oriented programming and their implementation in Python. They will also try out the basics of working with data libraries in Python, namely NumPy, Pandas, Matplotlib, and practice with examples of smaller and larger data sizes.			
14PRG	Programming	KZ	2
The Course Programming builds on and fully extends the course 14ASD (Algorithmization and Data Structures). The knowledge of the Python programming language is expanded here so that the participant gains skills and can apply them to solve various follow-up tasks. Main topics: lists, multidimensional arrays, sorting and searching, tuples, sets, dictionaries, working with date and time, regular expressions, functions and procedures, working with files (CSV, JSON, XML).			
14W1HW	Computer Hardware	KZ	4
Computer architecture, basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and separate parts designing - controllers, arithmetic and logical units, I/O subsystem.			
14W1PJ	C Programming Language	KZ	4
C programming language. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, string, files, structures and unions. Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise oprerators.			
14W1PZ	Advanced Data Processing in Spreadsheets	KZ	4
Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formulas and functions, including addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, solution finding, solver, macros, data analysis. Examples and questions from various companies and training.			
14W1UP	Editing of Theses in MS Word	KZ	4
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.			
15JZ1A	Foreign Language - English 1	Z	3
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and communicative skills. Elementary stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.			

15JZ2A	Foreign Language - English 2	Z,ZK	3
Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and communicative skills. Elementary stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.			
15JZ3F	Foreign Language - French 3	Z	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.			
15JZ3I	Foreign Language - Italian 3	Z	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.			
15JZ3N	Foreign Language - German 3	Z	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.			
15JZ3R	Foreign Language - Russian 3	Z	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.			
15JZ3S	Foreign Language - Spanish 3	Z	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.			
15JZ4F	Foreign Language - French 4	Z,ZK	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.			
15JZ4I	Foreign Language - Italian 4	Z,ZK	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.			
15JZ4N	Foreign Language - German 4	Z,ZK	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.			
15JZ4R	Foreign Language - Russian 4	Z,ZK	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.			
15JZ4S	Foreign Language - Spanish 4	Z,ZK	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.			
15W1BO	Work Safety and Health Protection	KZ	4
Základní legislativa, vymezení pojmů, rizika a možná poškození zdraví, pracovní podmínky a ochrana zdraví zejména v dopravě. Programy na ochranu zdraví a zdravotní zajištění na služebních cestách doma i v zahraničí, statistika, praxe.			
15W1HE	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 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 a man. Practical examples from the field of transportation; relevant legislature.			
16DPO	Vehicle Technology	KZ	2
Vehicle. Functions, principles. Drive, 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.			
16UDOP	Introduction into Vehicles	Z	2
Vehicles and transportation systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and water transport. Alternative means of transport. Lifting equipment and conveyors. Legislation.			
16W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4
Methods of vehicle production. Vehicle maintenance. Vehicle diagnostics. Maintenance and repair plans. Engine maintenance and emission measurement. Transmission mechanism. General principles of engine diagnostics.			
17EPOD	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.			
17ESYS	Transport Systems Economy	Z,ZK	6
Macroeconomics, macroeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system and its quantification, rationalization of transport system.			
17FID	Financing and Investment in Transport	Z,ZK	4
Sources of financing of transport infrastructure, the role of public administration in the financing and realization of investment in transport, the investment project project cycle, subsidy programs and their rules, competition, effectiveness and efficiency of spending public funds, evaluation systems of public projects and programs.			

17GEDS	Geography of Transport Systems	KZ	2
Regional differentiation of the transport system. Sociogeographic regionalization and its relation to transport. Transport and local and regional development. Spatial interaction - theoretical and methodological framework. Mobility research - travel behavior, mode choice and the influence onto "modal-split." Modal competition. Practical use of transport-geographical analysis in transportation planning.			
17IVED	Integration of Public Transport	Z,ZK	3
Transport policy of both EU and CR, transport sectoral strategies, land use planning and evolution of space organization, integration of public service in territory, forms and content of activities and organizational structures of integrated public transport systems, internal and external bindings, contracting, carriage relations, conditions of both rail and bus transport operations, grading and quality, IS, marketing.			
17KLID	Quality in Transport Service	Z,ZK	3
General interpretation of quality, standards and international standardization, integrated management systems, modern attitudes of quality management, quality in transport service and logistics, methods of quality measurement, quality management, risks and opportunities, public transport quality, view of costumers, carriers and PT-organizers, quality standards, quality costs, marketing and costumer satisfaction.			
17LGT	Logistics	Z,ZK	6
Logistics definition, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intelligent logistics systems, logistics city.			
17MAGD	Marketing in Transport	KZ	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.			
17MRRK	Managerial Decision-making and Management	Z,ZK	3
Decision-making process; identifying exactly what the problem is; evaluating the issue; solving the issue; using multiple perspective analysis to make a decision; usual method of thinking.			
17NAPR	Freight Traffic	Z	2
Freight traffic and transportation system, conditions of implementation, forwarding.			
17TEDK	Transport Technology and Logistics	KZ	4
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.			
17TVD	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.			
17W1EV	Public Sector Economy	KZ	4
Economic and financial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assesment of public projects (CBA, MCA, CEA), tax system of the CR, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, funding from EU funds, program HDM-4.			
17W1LL	Logistics of Passenger and Freight Air Transport	KZ	4
Logistics airline passenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport process passengers and air cargo. Information systems in air transport. Global distribution systems.			
17W1OF	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, mortgage, savings, consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability and adequacy), securing the future (retirement savings and insurance).			
17W1PM	Personal Management	KZ	4
Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, intercultural communication.			
17W1SK	Urban and Regional Rail Transport Systems	KZ	4
Factors affecting transport demand, modal-split, distribution of passenger flows on public regional transport lines. Optimization of line management, line networking. Creating and evaluation of the timetable. Vehicle circulation creation. Optimizing driver shifts and arranging them in turnus. Effects of barrier-free and public transport preferences. The role of marketing.			
17W1SL	Sociology of Human Resources	KZ	4
Human resources and their importance, work group as a special kind of social group, communication, personal management, modern management, human resources planning, culture of the organization.			
17W1ST	Titan Simulation	KZ	4
Titan is a management game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with the same product. Students set a price and determine the quantity and capacity of production, plan budgets for marketing, research and development. They become familiar with the consequences of their decisions by the form of financial corporate reports and they use this information for other business decisions.			
17ZAP	Fundamentals od law	Z	2
18MTY	Materials Science and Engineering	Z,ZK	3
Basic course of materials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructure. However the 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. Attention is also paid to degradation processes in materials, to defectoscopy and to main mechanical tests.			
18PZP	Elasticity and Strength	Z,ZK	3
Tension and compression. Bending of beam. Shear stress in bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted and welded joints of structures. Analysis of deflection curve of beams. Torsion of circular cross sections. Combined loading. Stability.			
18SAT	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 simple girders. Principle of virtual work. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss constructions. Cross-sectional characteristics of planar shapes. Fiber polygons and chains.			
18TKK	Technical Drawing and Designing	KZ	4
20SYSA	Systems Analysis	Z,ZK	5
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.			

20UITS	Introduction to Intelligent Transport Systems	Z,ZK	7
Terminology and legislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of information and telecommunication systems for ITS. Principles and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examples of possible applications of the principles of ITS.			
21ZALD	Basics of Air Transport	KZ	2
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.			

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