#### Study plan

#### Name of study plan: Bachelor TET-LOG Part-Time from 2023/24

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: 128
Elective courses credits: 52
Sum of credits in the plan: 180

Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 116

The role of the block: Z

Code of the group: 1S-BK-TET-23/24-DC

to degradation processes in materials, to defectoscopy and to main mechanical tests.

Name of the group: 1st Sem. Bachelor Part-Time TET from 2023/24

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:

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 Ondřej Navrátil (Gar.)	Z,ZK	7	2P+4C+22E	B Z	Z
611LA	Linear Algebra Romana Zibnerová Romana Zibnerová Martina Bečvářová (Gar.)	Z,ZK	3	2P+1C+10E	B Z	Z
612ZYDK	Introduction to Transportation Engineering	Z,ZK	3	6B	Z	Z
618MTY	Materials Science and Engineering Vit Malinovský Jaroslav Valach (Gar.)	Z,ZK	3	2P+1C+10E	B Z	Z
611GIE	Geometry Vít Malinovský Šárka Voráčová (Gar.)	KZ	3	2P+2C+12E	B Z	Z
614ASD	Algorithm and Data Structures  Jan Mejstřík	KZ	3	0P+2C+8E	B Z	Z
614KSP	Constructing with Computer Aid	KZ	2	0P+2C+8E	B Z	Z
618TED	Technical Documentation	KZ	2	1P+1C+8E	Z	Z
615DPLG	Transportation Psychology	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-BK-TET-23/24-DC Name=1st Sem. Bachelor Part-Time TET from 2023/24

611CAL1	Calculus 1	Z,ZK	7
Sequence of real number	ers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton in	tegral, Riemann i	ntegral, improper
Riemann integral. First-	order differential equations, linear differential equations.		
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	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	is science and engineering explains mechanical properties of structural materials based on their bonding forces and microstru	icture. However th	ne 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. Atter	ntion is also paid

611GIE	Geometry	KZ	3
Orthographic and	blique projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - pa	rameterization, arc	of the curve,
torsion and curvatu	re, Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity and acceleration of a particle moving on a	curved path.	
614ASD	Algorithm and Data Structures	KZ	3
Students will be far	niliarized with selected basic and derived data structures, algorithms, their properties and their design procedure. Students will an	alyze problems, pro	pose theoretica
solutions to the set	task and the resulting algorithm write by means of flowcharts, practice in reading algorithms recorded by means of the flowchart	t and use the basic	s of Boolean
algebra with forming	g the conditions for the algorithms.		
614KSP	Constructing with Computer Aid	KZ	2
"CAD systems" ter	m determination. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic commor	work rules in grap	hic applications
and CA systems. C	o-ordinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting pos	٠.	
•	o-ordinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting posvith raster foundaments).	٠.	
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profiles, drawings v	vith raster foundaments).	ssibilites, AutoCAD	environment 2
profiles, drawings v	vith raster foundaments).    Technical Documentation   Technical standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimension	ssibilites, AutoCAD	environment 2
profiles, drawings v 618TED Technical standard arrangement of dra	vith raster foundaments).    Technical Documentation   Technical standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimension	ssibilites, AutoCAD	environment 2
profiles, drawings v 618TED Technical standard arrangement of dra 615DPLG	with raster foundaments).    Technical Documentation   Technical Standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional sheets.	KZ anal and geometrica	environment  2 al accuracy,
profiles, drawings v 618TED Technical standard arrangement of dra 615DPLG Subject of psychology	with raster foundaments).    Technical Documentation s, international standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional standardization, technical drawings sheets.    Transportation Psychology	KZ anal and geometricate  Z construction. Psych	environment  2 al accuracy,

Vehicles and transportation systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and water transport. Alternative means

Code of the group: 2S-BK-TET-23/24-DC

of transport. Lifting equipment and conveyors. Legislation.

Name of the group: 2nd Sem. Bachelor Part-Time TET from 2023/24

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
611CAL2	Calculus 2 Romana Zibnerová	Z,ZK	5	2P+3C+20E	B L	Z
611STAT	Statistics	Z,ZK	4	2P+2C+12E	B L	Z
612ZTS	Railway Lines and Stations	Z,ZK	4	2P+2C+10E	B L	Z
618SAT	Structural Analysis	Z,ZK	4	2P+2C+14E	B L	Z
620SYSA	Systems Analysis	Z,ZK	5	2P+2C+14E	B L	Z
614PRG	Programming	KZ	2	0P+2C+8E	B L	Z
617TEDK	Transport Technology and Logistics	KZ	4	12B	L	Z
621ZALD	Basics of Air Transport	KZ	2	0P+2C+8E	3 L	Z

### Characteristics of the courses of this group of Study Plan: Code=2S-BK-TET-23/24-DC Name=2nd Sem. Bachelor Part-Time TET from 2023/24

611CAL2	Calculus 2	Z,ZK	5
Linear differential equal	ions and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and surface in	tegrals.	
611STAT	Statistics	Z,ZK	4
Definition of probability,	random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation	on. Testing of statis	tical hypothesis.
Regression and correla	tion, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linea	ar regression, ana	lysis of variance,
multiple regression, the	use of matrices in regression.		
612ZTS	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	ailway lines.
Railway control system	s in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport.		
618SAT	Structural Analysis	Z,ZK	4
General system of force	s in plane and space. Calculation of reactions of bodies and structures. Assessment of internal forces on statically determina	ate beams and sir	nple girders.
Principle of virtual work.	Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction	ons. Cross-section	al characteristics
of planar shapes. Fiber	polygons and chains.		
620SYSA	Systems Analysis	Z,ZK	5
Introduction to system s	ciences, system viewpoint, terminology, typical system analysis tasks, system identification, system interface and interface ta	sks, processes, s	ystem behaviour
and its analysis, strong	functions and processes, genetic code, system identity, system architecture. Tools for system analysis - Petri nets, decision t	ables, algorithms	for structural
tasks. Soft and hard sys	stems, methods for soft system analysis.		
614PRG	Programming	KZ	2
Algorithm development	methods of structured programming, high-level programming languages, basics of C programming languages (types, variab	les, conditions, cy	cles, arrays,
functions), programmin	g techniques, complexity.		
617TEDK	Transport Technology and Logistics	KZ	4
Basic terms in transpor	t technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight	transport, organis	ation 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.

621ZALD Basics of Air Transport

KZ

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-24/25-DC

Name of the group: 3rd 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
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 Padělek Josef Kocourek (Gar.)	Z,ZK	3	2P+1C+8E	B Z	Z
611TGA	Graph Theory and its Applications in Transport  Denisa Mocková, Dušan Teichmann, Andrea Hrníčková Denisa Mocková  Denisa Mocková (Gar.)	Z,ZK	4	2P+2C+12E	B Z	Z
618PZP	Elasticity and Strength Tomáš Doktor Ondřej Jiroušek (Gar.)	Z,ZK	3	2P+1C+10E	B 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 Padělek Josef Kocourek (Gar.)	KZ	3	1P+2C+10E	B Z	Z
614DATS	Database Systems Ondřej Smíšek Jana Kaliková (Gar.)	KZ	2	1P+1C+10E	B Z	Z
615JZ1A	Foreign Language - English 1  Jan Feit	Z	3	0P+4C+10E	Z	Z

### Characteristics of the courses of this group of Study Plan: Code=3S-BK-TET-24/25-DC Name=3rd Sem. Bachelor Part-Time TET from 2024/25

611FYZ Physics Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and electric current.  612MDE Transport Models and Transport Excesses 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 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.  611TGA Graph Theory and its Applications in Transport 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.  618PZP Elasticity and Strength Z,ZK 3 Tension and compression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted and welded joint of struct Analysis of deflection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic foundation. Strength analysis.  620UITS Introduction to Intelligent Transport Systems Ireminology and legislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of information and telecommunica 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 principles of ITS.  612PPOK Designing Roads, Highways and Motorways 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, junc	2024/20			
Fransport Models and Transport Excesses   Z,ZK   3	611FYZ	Physics	Z,ZK	5
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 transport and its assessment. Statistical characteristics of transport excesses, their analysis, the causes, identify and minimize the consequences. Improving of transport safety and fluency.  611TGA Graph Theory and its Applications in Transport  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.  618PZP Elasticity and Strength Z,ZK 3  Tension and compression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted and welded joint of struct Analysis of deflection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic foundation. Strength analysis.  620UITS 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 telecommunical 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 principles of ITS.  612PPOK 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, junctic intersections.  614DATS Database Systems  Basic concepts of database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security and integ	Kinematics, dynamics,	Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and electric current.	·	
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612PPOK Designing Roads, Highways and Motorways  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, junction intersections.  614DATS  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.  615JZ1A  Foreign Language - English 1  Z  3	systems for ITS. Princip	les and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examp	oles of possible ap	plications of the
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, junctic intersections.  614DATS 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.  615JZ1A Foreign Language - English 1  Z 3	principles of ITS.			
Range of vision for stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety device. Crossings, junctic intersections.  614DATS  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.  615JZ1A  Foreign Language - English 1  Z 3	612PPOK	Designing Roads, Highways and Motorways	KZ	3
intersections.  614DATS 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.  615JZ1A Foreign Language - English 1 Z 3	Definition, types, owner	ship, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standa	ard speed. Route in	n rural areas.
Database Systems   KZ   2	Range of vision for stop	ping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. S	afety device. Cross	sings, junctions
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.  615JZ1A Foreign Language - English 1 Z 3	intersections.			
queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via the WWW.  615JZ1A Foreign Language - English 1 Z 3	614DATS	Database Systems	KZ	2
615JZ1A Foreign Language - English 1 Z 3	Basic concepts of datal	ase systems, conceptual model, relational data model, the principles of normal forms, relational database design, security a	nd integrity of data	ı, database
1 order 1 order 1 order 1	queries, relational algel	ora, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via the WWW.		
	615JZ1A	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. Element	Grammatical structures		l communicative sk	kills. Elementar
stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.	stylistics forms. Oral an	d written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.		

Code of the group: 4S-BK-LOG-24/25-DC

Name of the group: 4th Sem. Bachelor Part-Time TET-LOG from 2024/25 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	Z,ZK	4	2P+2C+12B	L	Z
617ESYS	Transport Systems Economy	Z,ZK	6	3P+2C+18B	L	Z
617LGT	Logistics	Z,ZK	6	3P+2C+18B	L	Z
611MDP	Transport Prognostic Methods	KZ	2	2P+0C+10B	L	Z
611LP	Linear Programming	KZ	3	2P+1C+12B	L	Z
616DPO	Vehicle Technology	KZ	2	2P+0C+10B	L	Z
615JZ2A	Foreign Language - English 2	Z,ZK	3	0P+4C+10B	L	Z

# Characteristics of the courses of this group of Study Plan: Code=4S-BK-LOG-24/25-DC Name=4th Sem. Bachelor Part-Time TET-LOG from 2024/25

611MSP	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 diff	erential and differ	ential equations.
Linear and nonlinear s	stem, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer functior	າ. Stability of LTI ຄ	systems.
Discretization of contin	uous systems. System interconnection.		
617ESYS	Transport Systems Economy	Z,ZK	6
Macroeconomics, mac	oeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system ar	ıd its quantification	n, rationalization
of transport system.			
617LGT	Logistics	Z,ZK	6
Logistics definition, bas	ic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intel	ligent logistics sy	stems, logistics
city.			
611MDP	Transport Prognostic Methods	KZ	2
The techniques of eco	omical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsion of statis	ical values using	differencies and
indices.			
611LP	Linear Programming	KZ	3
Formulation of the prob	lem of linear programming, transcription of some practical problems to the linear programming problems. Simplex and convex	polyedra. Simple	x method, basic
solutions, duality princi	ple in linear programming, stability of solution of linear programming problem. Traffic problem.		
616DPO	Vehicle Technology	KZ	2
Vehicle. Functions, prir	ciples. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety, carriag	e design. Drive. El	lectric traction.
Transshipment. Techno	ogical components of various modes of transport. Management and control of various means of transport. Safety.		
615JZ2A	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 s	kills. Elementary
stylistics forms. Oral ar	d written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.		-
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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-23/24-DC

Name of the group: Comp. Sel. Courses Bachelor Part-Time TET-LOG from 2023/24

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
600W1XB	Active participation in a scientific project, workshop, short-term trip abroad  Patrik Horažďovský Patrik Horažďovský (Gar.)	KZ	4	8B		PV
615W1BO	Work Safety and Health Protection in Transportation	KZ	4	8B	L	PV
621W1BS	Unmanned aircraft systems 1	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 Petr Musil Petr Musil (Gar.)	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

621W1OH	Airline Business and Operations	KZ	4	8B	Z	PV
617W1OF	Personal Finance Alexandra Dvořáčková Alexandra Dvořáčková (Gar.)	KZ	4	8B	Z	PV
617W1PM	Personnel Management	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	KZ	4	8B	L	PV
617W1ST	Titan Simulation	KZ	4	8B	L	PV
617W1SL	Sociology of Human Resources	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=W1-BK-LOG-23/24-DC Name=Comp. Sel. Courses Bachelor Part-Time TET-LOG from 2023/24

600W1XB Active participation in a scientific project, workshop, short-term trip abroad	KZ	4
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 tran		
health insurance of home and foreign business trips, statistics, working practice.	sportation. Health protection	n programmos,
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. Operational risks	and operational
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 asse	esment of public projects (C	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.	cts, funding from EU funds,	program HDM-4
614W1HW Computer Hardware	KZ	4
Computer architecture, basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and	d separate parts designing	<ul> <li>controllers,</li> </ul>
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	ce of these factors on healt	h of workers.
Creation and protection of working conditions that do not damage public health. Mutual links man-machine-environment. Adaptation of tecling	hnology 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 system	ns. Aerial 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 passenge	er transport and the resultir	ig differences in
the application of marketing.		
COMMAND Models for project ariented attribut		
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. Individ	1	4 ed according to
, ,	lual exercises will be prepar	_
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ	lual exercises will be prepar	_
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an	lual exercises will be prepai improvement of students' M KZ	Matlab skills.
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations	lual exercises will be prepar improvement of students' M KZ on the organizational structu	Matlab skills.  4 ure of companies
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH  Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses to	lual exercises will be prepar improvement of students' M KZ on the organizational structu	Matlab skills.  4 ure of companies
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser	lual exercises will be prepar improvement of students' M KZ on the organizational structu	Matlab skills.  4 ure of companies
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.	lual exercises will be prepared improvement of students' Note   KZ on the organizational structurates of transportation process.	Matlab skills.  4 ure of companies esses. It provide
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W1OF Personal Finance	lual exercises will be prepared improvement of students' MZ on the organizational structuration of transportation processing of housing (rent, more	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings,
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W1OF  Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financing	lual exercises will be prepared improvement of students' MZ on the organizational structuration of transportation processing of housing (rent, more	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings,
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W1OF  Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financonsumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, septiment savings and insurance).	lual exercises will be prepared improvement of students' MZ on the organizational structuration of transportation processing of housing (rent, more	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings,
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W1OF  Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financonsumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, september 1).	lual exercises will be prepared improvement of students' Mark Zon the organizational structuration of transportation process KZ incing of housing (rent, more suitability and adequacy), see KZ	Matlab skills.  4 ure of companies esses. It provides 4 ugage, savings, ecuring the future
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W10H Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W10F Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finar consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, so (retirement savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork.	lual exercises will be prepared improvement of students' Max North Repair Repai	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings, ecuring the future  4 tion.
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W10H Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W10F Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finar consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, so (retirement savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork  614W1PZ Advanced Data Processing in Spreadsheets	lual exercises will be prepared improvement of students' Mark Zon the organizational structurations of transportation process of housing (rent, more suitability and adequacy), see KZ	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings, ecuring the future  4 tion.  4
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W10H Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W10F Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finar consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, so (retirement savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork.	lual exercises will be prepared improvement of students' Max North Repair Repai	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings, ecuring the futur  4 tion.  4 s, including
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W10H Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W10F Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financonsumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, segment savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork adaptation, teamwork adaptation, teamwork and plant and processing in Spreadsheets  Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertic	lual exercises will be prepared improvement of students' Max North Repair Repai	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings, ecuring the futur  4 tion.  4 s, including
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W10H Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W10F Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financonsumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, segment savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork  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, insertic addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional data analysis. Examples and questions from various companies and training.	lual exercises will be prepared improvement of students! Modern KZ  on the organizational structurations of transportation process  KZ  Incing of housing (rent, more suitability and adequacy), see KZ  Incing the formulation of the communication of the communica	Matlab skills.  4 ure of companies esses. It provide:  4 ugage, savings, ecuring the future  4 uion.  4 s, including
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W1OF Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finar consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, serietirement savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwore  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, insertic addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional data analysis. Examples and questions from various companies and training.  614W1PJ C Programming Language	lual exercises will be prepare improvement of students' Max Con the organizational structurations of transportation process of transportation of t	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings, ecuring the future  4 tion.  4 s, including g, solver, macros
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W10H Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W10F Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financonsumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, segment savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork  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, insertic addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional data analysis. Examples and questions from various companies and training.	lual exercises will be prepare improvement of students! Moreovement of students! Movement of students! Movement of students! Movement of the process of the	Matlab skills.  4 ure of companies esses. It provide  4 tgage, savings, ecuring the futur  4 tion.  4 s, including g, solver, macros
The subject's syllabus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individ particular examples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an 621W1OH Airline Business and Operations  The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses of various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esser a basic view of the economic aspects of air transport.  617W1OF Personal Finance  Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finar consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, segment savings and insurance).  617W1PM Personnel Management  Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork  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, insertial addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional 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 a Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise operators.	lual exercises will be prepare improvement of students! Max Zon the organizational structuratials of transportation processive for the suitability and adequacy), see KZ Rk, intercultural communication of formulas and functional formatting, solution finding KZ allocation, string, files, structures.	Matlab skills.  4  ure of companie esses. It provide  4  gage, savings, ecuring the futur  4  cion.  4  s, including g, solver, macros  4  tures and unions
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617W1ST 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.							
617W1SL 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, h	uman resources	planning, culture					
of the organization.							
617W1SK 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, li	ine networking. C	reating 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.							
621W1TH Aircraft Technical Handling	KZ	4					
Aircraft towing and pushing tractors. GPU. Air conditioning and heating units. Aircraft fuel equipment. De-acing and anti-icing units. Loading and unloading units. Equipment for							
passangers onboarding and offboarding. Operational processes of aircraft technical handling and regulations. Modernization and technical progress.							
614W1UP 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.							

#### List of courses of this pass:

Code	Name of the course	Completion	Credits
600W1XB	Active participation in a scientific project, workshop, short-term trip abroad	KZ	4
611CAL1	Calculus 1	Z,ZK	7
Sequence of real r	numbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integ Riemann integral. First-order differential equations, linear differential equations.	ral, Riemann integr	al, improper
611CAL2	Calculus 2	Z,ZK	5
Linea	ar differential equations and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and	surface integrals.	
611FYZ	Physics	Z,ZK	5
	Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and electrostatics and electrostatics.	tric current.	
611GIE	Geometry	KZ	3
Orthographic an	d oblique projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - param	neterization, 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	ear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and the their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classificat		minants and
611LP	Linear Programming	KZ	3
	problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex and convex po	1	_
	solutions, duality principle in linear programming, stability of solution of linear programming problem. Traffic problem.	, , , , , , , , , , , , , , , , , , , ,	
611MDP	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 indices.	al values using diffe	rencies and
611MSP	Modeling of Systems and Processes	Z,ZK	4
•	Discretization of continuous systems. System interconnection.  Statistics billity, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation.	•	
Regression and co	prrelation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear regression, the general linear model, statistical inference in linear regression.	egression, analysis	of variance
044704	multiple regression, the use of matrices in regression.	7.71/	4
611TGA	Graph Theory and its Applications in Transport	Z,ZK	4
	of graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in	1	-
612MDE	Transport Models and Transport Excesses	Z,ZK	3
	traffic flow and methods for their measurement. Models of the traffic flow, communications load, line and urban systems. Theory of quassessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the consequence safety and fluency.		•
612PPOK	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	d speed. Route in r	ural areas.
Range of vision fo	r stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safe intersections.	ty device. Crossing	s, junctions
612ZTS	Railway Lines and Stations	Z,ZK	4
-	lailway 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	Spatial layout of rail	way lines.
612ZYDK	Introduction to Transportation Engineering	Z,ZK	3
	tion in land-use planning. Basic terms in transportation engineering. Traffic survey and traffic prognosis. Introduction to topic of roads, p	1 '	
	impacts of transportation to environment and safety.		

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614ASD	Algorithm and Data Structures	KZ	3
	miliarized with selected basic and derived data structures, algorithms, their properties and their design procedure. Students will analyze set task and the resulting algorithm write by means of flowcharts, practice in reading algorithms recorded by means of the flowchart an		
Solutions to the	algebra with forming the conditions for the algorithms.	d use the basics	oi boolean
614DATS	Database Systems	KZ	2
	of database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security and		I
•	queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via t		,
614KSP	Constructing with Computer Aid	KZ	2
CAD systems" te	rm determination. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic common work	rules in graphic	application
and CA systems	c. Co-ordinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting possible	lites, AutoCAD e	nvironment
	profiles, drawings with raster foundaments).		
614PRG	Programming	KZ	2
Algoritrim devel	opment, methods of structured programming, high-level programming languages, basics of C programming languages (types, variables functions), programming techniques, complexity.	s, conditions, cyc	ies, arrays,
614W1HW	Computer Hardware	KZ	4
	ecture, basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and separate p		1
, , , , , , , , , , , , , , , , , , , ,	arithmetic and logical units, I/O subsystem.		
614W1PJ	C Programming Language	KZ	4
programming la	nguage. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, strin	g, files, structures	and union
	Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise op	rerators.	
614W1PZ	Advanced Data Processing in Spreadsheets	KZ	4
	e familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formul		
ddressing, error	detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, so	olution finding, so	lver, macro
614W1UP	data analysis. Examples and questions from various companies and training.	V7	1
-	Editing of Theses in MS Word introduced to the principles of creating and editing large documents and basic typographic rules. They will properly apply styles, creat	KZ e tables of conte	4
	uphs, etc. Footnotes, captions, index. They practice corrections of finished documents. The goal is to prepare students for seamless edi		
,,, g	so that they are able to concentrate mainly on writing a thesis.	9	
615DPLG	Transportation Psychology	Z	2
ubject of psycho	ogy and its basic concepts. Information intake, decision-making and behaviour. Performance. Engineering psychology and vehicle constr	ruction. Psycholog	gical aspec
	rel route and traffic conditions, accidents and traffic incidents. Selection and training of the staff. Work and leisure. Age as a factor in tra	nsport operation	
615JZ1A	Foreign Language - English 1	Z	3
rammatical struc	tures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and con		. Elementa
0.15.170.4	stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles o		
615JZ2A	Foreign Language - English 2 tures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and con	Z,ZK	3
rammaticai struc	stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles o		s. Elementa
615W1BO	Work Safety and Health Protection in Transportation	KZ	4
	slative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. He		1
	health insurance of home and foreign business trips, statistics, working practice.		3
615W1HE	Work Hygiene and Ergonomics in Traffic	KZ	4
Basic knowledg	e of occupational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of these fi	actors on health	of workers.
Creation and pro	stection of working conditions that do not damage public health. Mutual links man-machine-environment. Adaptation of technology to po	ossibilities and sk	ills of man
	Practical examples from the field of transportation; relevant legislative.		
616DPO	Vehicle Technology	KZ	2
enicie. Function	s, principles. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety, carriage do Transshipment. Technological components of various modes of transport. Management and control of various means of transport.	-	tric traction
616UDOP	Introduction into Vehicles	Z	2
	sportation systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and water		
eriicies and tran	of transport. Lifting equipment and conveyors. Legislation.	transport. Altern	alive illeai
616W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4
	e production. Vehicle maintenance. Vehicle diagnostics. Maintenence and repair plans. Engine maintenance and emission measureme		1
	General principles of engine diagnostics.		
617ESYS	Transport Systems Economy	Z,ZK	6
	macroeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system and its	quantification, ra	ationalizati
acroeconomics,			
	of transport system.		6
617LGT	Logistics	Z,ZK	1
617LGT	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige		1
617LGT ogistics definitio	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.	nt logistics syste	ms, logistic
617LGT ogistics definition	Logistics n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics	nt logistics syste	ms, logistic
617LGT ogistics definition 617TEDK asic terms in tra	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics  nsport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight trans	KZ sport, organisatio	ms, logistic
617LGT ogistics definitio 617TEDK asic terms in tra	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics  nsport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transpords, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication using the content of the side of operator and client, organisation of city transport, logistic technologies and their aplication using the content of the side of operator and client, organisation of city transport, logistic technologies and their aplication using the content of the cont	KZ sport, organisationg various transp	ms, logistic  4 n of traffic ort modus
617LGT ogistics definition 617TEDK asic terms in traeach transport reference 617W1EV	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics  nsport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transpords, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usin Public Sector Economy	KZ sport, organisationg various transp	ms, logistic  4 n of traffic ort modus  4
617LGT ogistics definitio 617TEDK asic terms in tra each transport r 617W1EV conomic and fine	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics  nsport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transpords, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usin  Public Sector Economy  ancial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assessment of public	KZ sport, organisatio ng various transp KZ c projects (CBA,	ms, logistic  4 n of traffic ort modus  4 MCA, CEA
617LGT ogistics definition 617TEDK asic terms in traceach transport recommended 617W1EV conomic and finax system of the 6	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics  nsport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transports, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usin Public Sector Economy  ancial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assessment of public CR, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, funding from	KZ sport, organisation y various transp KZ c projects (CBA, m EU funds, prog	ms, logistic  4 n of traffic ort modus.  4 MCA, CEA
617LGT ogistics definition 617TEDK asic terms in traleach transport of 617W1EV conomic and finax system of the 617W1LL	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics  nsport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transpords, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usin  Public Sector Economy  ancial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assessment of public	KZ sport, organisation y various transp KZ c projects (CBA, m EU funds, prog	4 n of traffic ort modus.  4 MCA, CEA
617LGT ogistics definition 617TEDK dasic terms in traceach transport of 617W1EV conomic and finax system of the 617W1LL	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics  nsport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transports, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usin  Public Sector Economy  ancial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assessment of public CR, 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	KZ sport, organisation y various transp KZ c projects (CBA, m EU funds, prog	4 n of traffic ort modus.  4 MCA, CEA gram HDM-
617LGT ogistics definition 617TEDK Basic terms in traceach transport r 617W1EV conomic and finax system of the 6 617W1LL	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics Insport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transports, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication using Public Sector Economy  Increase and theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assessment of public CR, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, funding from Logistics of Passenger and Freight Air Transportation  assenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transports a transport and cargo transports.	KZ sport, organisation y various transp KZ c projects (CBA, m EU funds, prog	4 n of traffic ort modus.  4 MCA, CEA
617LGT cogistics definition 617TEDK desic terms in traceach transport r 617W1EV conomic and finax system of the compact of the	Logistics  n, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intellige city.  Transport Technology and Logistics Insport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transports, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication using Public Sector Economy  ancial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assesment of public CR, 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  assenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport air cargo. Information systems in air transport. Global distribution systems.	KZ sport, organisation g various transp KZ c projects (CBA, m EU funds, prog KZ port process pas	4 n of traffic ort modus.  4 MCA, CEA gram HDM-4 sengers ar

617W1OF	Personal Finance	KZ	4		
	budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financing of house				
consumer loans, re	financing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability and a (retirement savings and insurance).	adequacy), securir	ng the future		
617W1PM	Personnel Management	KZ	4		
Human sour	ces, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, inter-		ation.		
617W1SK	Urban and Regional Rail Transport Systems	KZ	4		
_	transport demand, modal-split, distribution of passenger flows on public regional transport lines. Optimization of line management, lines to be a controlled to the controlled transport lines. Optimized to the controlled transport lines are the controlled transport lines.	_	- 1		
evaluation of the	e timetable. Vehicle circulation creation. Optimizing driver shifts and arranging them in turnus. Effects of barrier-free and public transpo marketing.	ort preterences. In	ie role of		
617W1SL	Sociology of Human Resources	KZ	4		
	and their importance, work group as a special kind of social group, communication, personal management, modern management, hum				
	of the organization.	•	J,		
617W1ST	Titan Simulation	KZ	4		
Titan is a manaç	gement game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with the same produc	ct. Students set a	orice and		
determine the quar	ntity 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.				
618MTY	Materials Science and Engineering	Z,ZK	3		
	terials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructur				
is paid to metals as	s the most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and com to degradation processes in materials, to defectoscopy and to main mechanical tests.	iposites. Attention	is also paid		
618PZP	Elasticity and Strength	Z,ZK	3		
	ן בומאנונדוץ מוט אופונדון אוט אופונדון בומאנונדון בומאנונדון אוט אופונדון בומאנונדון בומאנונדון בומאנונדון בומ ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolter	,			
-	ection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic for	-			
618SAT	Structural Analysis	Z,ZK	4		
	of forces in plane and space. Calculation of reactions of bodies and structures. Assessment of internal forces on statically determinate				
Principle of virtual v	vork. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss constructions.	Cross-sectional ch	aracteristics		
	of planar shapes. Fiber polygons and chains.				
618TED	Technical Documentation	KZ	2		
Technical standa	ards, international standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional	I and geometrical	accuracy,		
00001/04	arrangement of drawing sheets.	7.71/	_		
620SYSA	Systems Analysis	Z,ZK	5		
	em sciences, system viewpoint, terminology, typical system analysis tasks, system identification, system interface and interface tasks, strong functions and processes, genetic code, system identity, system architecture. Tools for system analysis - Petri nets, decision tab	-			
and its analysis, s	tasks. Soft and hard systems, methods for soft system analysis.	nes, algorithms for	Siructurai		
620UITS	Introduction to Intelligent Transport Systems	Z,ZK	7		
	gislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of inform				
systems for ITS. Pr	inciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examples	of possible applica	ations of the		
	principles of ITS.				
621W1BS	Unmanned aircraft systems 1	KZ	4		
Unmanned Aviatio	n Development. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division. Ope	rational risks and	operational		
00.000.00	procedures. Practical flights.				
621W1MP	Matlab for project-oriented study	KZ	4		
	bus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises lles, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improveme		٠ ا		
621W1OH	Airline Business and Operations	KZ	4		
	s a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses on the organiza		· ·		
· · · · · · · · · · · · · · · · · · ·	their strategy, economic and operational indicators. It introduces students in detail to operational processes and the essentials of transp		•		
·	a basic view of the economic aspects of air transport.	·	•		
621W1RZ	Human Resources Management	KZ	4		
	human resources in the organization and related disciplines file. Substance, importance and challenges of human resources manage		external		
environment of hun	nan resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and rem	nuneration of staff.	Positioning,		
	dismissal and redundancies of employees. Education of employees. Planning career management.				
621W1TH	Aircraft Technical Handling	KZ	4		
Aircraft towing and pushing tractors. GPU. Air conditioning and heating units. Aircraft fuel equipment. De-acing and anti-icing units. Loading and unloading units. Equipment for passangers onboarding and offboarding. Operational processes of aircraft technical handling and regulations. Modernization and technical progress.					
621ZALD		KZ	2		
	Basics of Air Transport  terminology basic rules VER/IFB Basics of aerodynamics Propulsion of aircraft Aircraft design Basics of navigation, radio navigation.				

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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.